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### PSYCHOSOMATIC FACTORS IN DERMATOLOGY \*

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Physicians in the past have been apt to regard skin lesions as the name of a condition for which only an ointment was required. How the largest organ of the body, which reflects the well-being and general health of the individual could have been neglected for such a long time is hard to believe. The influences of endocrine imbalance, metabolic upsets, constitutional factors, and the infections, have been studied and applied to the management of skin diseases during the last two or three decades. The psychological and social fields have been grossly neglected. The experiences of the last war have shown that these fields can no longer be disregarded.

This paper is primarily concerned with the consideration of the emotional reactions on the skin via the autonomic nervous system; the personality types and the skin hazards to which they are liable, and with the part psychiatric therapy can play.

That emotions affect the skin is generally known; flushing with anger or embarrassment, or blanching with fear are well recognised. Popular expressions connect itching with impatience. The literature leaves little doubt that emotional lesions can influence the physiology of the skin sufficiently to produce symptoms.

It is believed that such reactions are due to persistent over-activity of the autonomic nervous system through the liberation of adrenergic and cholinergic substances. The higher centres of the two divisions of the autonomic nervous system, the sympathetic and the parasympathetic are situated in the hypothalamus which in turn has inter-communications with the cortex and thalamus.

Any adverse environmental situation which initiates

for example the emotion of rage or fear, acts as a stimulus through the autonomic nervous system and produces a series of physiological responses which affect the body as a whole. In case of fear it is mainly adrenergic, the blood pressure rises as does the respiratory rate, there is an increase in blood sugar and in sweating and peripheral vaso-constriction. Where rage is the stimulus the response is made up mainly of cholinergic effects, vaso-dilatation and increased capillary permeability being the important skin changes. These signs of autonomic nervous system stimulation ordinarily disappear when the stimulus is removed or is appropriately dealt with.

When stimuli recur frequently and the autonomic response is intensive, overactive and persistent as in a neurotic, or in a normal individual submitted to strain and stress over a long period, functional changes may pass into the organic.

For example, emotional stimulation of the para-sympathetic fibres to cutaneous capillaries, the concomitant of disturbed emotions existing in anxiety-ridden patients, may cause vaso-dilatation and increased permeability through acetylcholine liberation with resultant whealing and the production of emotional urticaria.

'Functional' changes may be transformed into the 'organic' by a different mechanism, as for example, when prolonged hyperhidrosis produces maceration of the intertriginous areas of the toes, which may in turn be followed by secondary infection by fungus and bacteria, and even by eczematization. It must be noted that not all 'functional' skin lesions are mediated through the autonomic nervous system; for example, self-induced eruptions whether consciously or subconsciously produced represent somatic behaviour disturbances. However, frustration of basic drives very

\* This paper was read at the Medical Congress of the Association held at Cape Town in September 1949.

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often constitutes the basis for these reactions. Recent contributions by dermatologists stress the importance of psychological influences on skin diseases. Thus, Ingram discusses the 'Skin Personality'. Obermayer and Becker approach the problem from a different angle by means of social and functional studies. These authors assess the etiological role of adverse home factors and the tissue unrest caused by nervous instability (inborn or acquired). This they call 'neuro-circulatory instability'. They class as neuro-circulatory instability, localised and generalised idiopathic pruritus, neurotic excoriations, neuro-dermatitis (dry and exudative), dyshidrosis, chronic urticaria, alopecia areata, lichen planus, rosacea, etc.

Hellier quoting Brocq (1891), divides skin affections into:

1. Skin Diseases.
2. Skin Reactions.

The former has a specific etiological agent, thus the spirochaete characteristically produces a primary chancre. He points out that the latter manifestation, namely skin reaction, depends on the make-up of the person for its characteristic response, urticarial eczematous, or psoriasisform etc., and not on the specificity of the external factor; e.g., whealing may be produced in one individual by eating tinned salmon, in another by physical factors such as heat, cold, and rubbing, and in another by psychological upsets. Most people do not wheal normally; only if a person has a special make-up will he react in this manner. A reaction may be simple, like flushing, or more complicated like eczema and psoriasis. He believes that hypersensitivity of the skin in eczema patients is only one aspect of the generally hypersensitive make-up, and agrees with Rogerson (1939), and Stokes and Beerman (1940), that the eczematous patients are usually above the average in intelligence, are inveterate worriers, and possess terrific drive. They are irritable and aggressive, over-anxious and insecure, and lacking in self-confidence.

There is evidence that certain types of symptoms are more apt to arise in certain types of personality. However, it must be noted that not every maladjusted individual develops psychosomatic disorders. The first attempt at co-ordinating skin conditions and personality types was undertaken by Mackenna, (1944), who (quoting Hodgson) describes personality types and skin lesions which may be associated with them:

<i>Low Intelligence Type.</i>	<i>Hysterical Features.</i>	<i>Narcissistic Features.</i>
Infestations.	Self-inflicted Lesions.	Exudative Dermatoses.
Sepsis.		
<i>Gross Anxiety States.</i>		
Excoriated Acne.	<i>Obsessional Features.</i>	
Hyperhidrosis.	Lichenification.	
Pompholyx.		
Rosacea.	Prurigo.	
Pruritus.	Pruritus.	

The hysterical type of personality is not the only type in which hysterical symptoms can occur. Hysteria and an hysterical personality are by no means the same. An hysterical symptom may develop in almost anyone.

The symptoms usually are an expression of a desire for sympathy, as a means of avoiding a difficulty. The lesions may be produced during sleep or during a phase of mental dissociation. In other cases the patient may be aware of the self-inflicted nature of the lesions but unaware of the motivation. These lesions are common in young women but such personalities are not exclusively of the female sex. The skin hazards in this type are self-inflicted wounds.

*The Anxiety States.* This type of personality is only too common. The morbid perturbation, agitation and distress are well recognised. But they may often mask their psychological symptoms of anxiety neurosis. Their attitude to authority is one of submissiveness. There is a strong need of approval, and often a considerable feeling of unworthiness. Rosacea is a common example of skin reaction. According to Klaber and Witekower 36 out of 50 patients have abnormal degrees of social anxiety; 20 have prolonged emotional stress; 26 have psychological trauma.

To illustrate the anxiety state I quote the following case of Drs. Lang and Jacobson. A young woman 30 years of age with no previous history of dermatological lesions had a first attack of psoriasis after witnessing the drowning of a younger brother. For that she was hospitalised for a long period and eventually the lesions resolved. She remained free for several years but relapsed with further emotional disturbance as a result of a broken engagement; and again relapsed following divorce proceedings, after being free for a long period.

We have had numerous cases amongst medical students with exacerbations of psoriatic lesions under the stress of final examinations. These observations have also been noted by Roxburgh in his textbook of dermatology.

Pompholyx and hyperhidrosis were common conditions in military practice. These patients were most difficult to handle and, in most cases, had to be boarded home.

In this category one can find many cases of lichen planus.

*The Obsessional Type.* This type of personality is over anxious in various ways. The patient is often meticulous, tense, preoccupied with order and routine, and obsessed with the importance of his mission. He often drives himself relentlessly to achieve the highest and most difficult aims. He is obsessed with cleanliness so much that if he develops scabies 'he is driven mad with itching', by the very idea of being infested. He invariably over-treats himself, and is likely to develop contact dermatitis. M.L. age 55 years, suffering from pruritus ani, duration 4-5 years, commenced life as an errand boy with a firm of which he now is the managing director. He arrived at my rooms at the appointed time and was most distressed to find that he has to wait a short while before I could see him. At our first interview he produced from a notebook a summary of the progress of his illness. After obtaining his confidence he imparted the following information to me. He had worked incessantly without a break since 1939, as his senior assistants were not competent to run the business during his absence. His two sons who were with him

could not apply themselves in business as he would have liked. His condition waxes and wanes and although all forms of local and general treatment have been tried there is at the most a temporary remission of his symptoms. I find this type of personality difficult to manage.

The modern trend is to face the fact that emotion does play an important part in disturbance of the physical state in the form of skin disease, and careful and reliable authorities and investigators are tending more and more to recognise this fact and apply psychiatric knowledge both in the investigation of their cases and in the treatment of the disease. The late Sir W. Langdon Brown, observed that a striking feature of the 20th century medicine is a return to the cult of Aesculapius:—cleanliness, fresh air, suggestion and dream analysis, and psychological explanation. This is a recognition of the importance, not only of the disease which the patient has, but the patient who has the disease.

Every patient who consults his doctor is in a state of fear. He is thereby rendered more susceptible to suggestion and the correct attitude of the doctor can profoundly affect his autonomic nervous system through his emotions, and thereby almost every chemical reaction throughout his body may be modified. A frequent and intimate discussion with the patient, and reassurance, will often produce an unbelievable feeling of well-being and strength in a patient and contribute much to the resolution of skin eruptions produced by emotional upsets. In a recent discussion on the subject 'The Dermatologist and the Psychiatrist' by Grottesman and Menninger, the general consensus of opinion arrived at, was that the importance of psychiatric methods of treatment in dermatology cannot be overrated, and that the dermatologist was the proper person to handle his own cases.

I will conclude by referring to the relaxation treatment which was introduced in the Dermatological Department at the Groote Schuur Hospital quite recently. The results have been most encouraging and worthy of further investigation and trial.

The following technique is adopted in the Department of Physical Medicine at Groote Schuur Hospital. I am grateful to Dr. Reichlin of that department for the information. The patients are taken individually until they have learned the elements of the procedure, when they join a class of the same sex. On his first visit the patient receives a short explanation of the procedure and the rationale is explained simply. He then lies on his back on an ordinary mattress either on the floor or on a bed. The innerspring type of mattress is not suitable. To eliminate external stimuli the room is in semi-darkness and kept as quiet as possible. The patient is instructed to breathe quietly and regularly, making as small a respiratory excursion as possible. Emphasis is laid upon the expiratory phase. The flexor groups of muscles are contracted against resistance until the patient appreciates the 'feel' of the contraction. This is followed by contraction of the extensors until the patient can differentiate between the action of one group and its antagonist. He is then instructed to contract and to relax to the maximum all the muscles of his body, exhaling during the relaxation phase, then to exhale still further relaxing even more.

These movements are then repeated mentally only in a

systematic routine way. Thus he concentrates on groups of muscles beginning with the muscles of the face and going down in order to the feet and the toes. In each instance the relaxation of a contracted muscle is emphasised and further relaxation is sought until the patient begins to experience a feeling of weight in the relaxed muscle.

Having achieved the maximum amount of general muscular relaxation, as tested objectively by the operator, the patient is allowed to remain in the relaxed state for 30 minutes, when he is instructed to stretch himself and slowly to assume the vertical posture. Hospital patients attend daily at the same time. Out-patients come twice or thrice weekly.

Patients are instructed to practise relaxation twice or thrice a day until they are proficient enough to discontinue the preliminary exercise and are able to relax totally.

D.S. age 64, European male, seborrhoeic dermatitis, affecting the seborrhoeic and flexural areas for 20 years.

Investigations: Non-contributory. Relaxation treatment started 23 May 1949; discharged from hospital 28 June 1949, completely recovered. Skin has never been so clear for the last 20 years.

H.V. age 57, European female. Under treatment for pruritus ani et vulvae for two years in the Skin and Gynaecological Out-patient Department. Previous history: Operation for prolapse 28 years ago, pelvic abscess ten years ago. Family history: son suffers from hay-fever and asthma. Admitted to the skin ward on 23 March 1949 with generalised dermatitis probably from over-treatment. On 2 April 1949 her lesions showed no tendency to resolve, and she was anxious and dejected. Relaxation therapy commenced on 27 May 1949. Completely recovered within 21 days.

In the field of dermatology, progressive muscular relaxation can be a useful aid to other therapeutic measures by reducing the neuromuscular tension of the patient, especially in those cases where the skin condition is accompanied by irritation or pain, or where worry and anxiety result in insomnia and where a vicious circle has to be broken. Relaxation can be of particular help in those cases where skin lesions occur in association with severe nervous or emotional stress.

Much has appeared in recent literature on the psychosomatic aspects of skin diseases, and I have attempted to emphasise the importance of some of these factors in this paper. I wish to thank Dr. R. Lang, head of the Dermatological Department at the Groote Schuur Hospital for allowing me to quote his cases, and for help and criticism in preparing this paper.

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# South African Medical Journal

## Suid-Afrikaanse Tydskrif vir Geneeskunde

### EDITORIAL

#### THE ISSUE OF DEATH CERTIFICATES\*

In a recent case heard in the Cape Provincial Division of the Supreme Court (*Rex v. Ben Nyalase and two others*, 24 April 1950), an undesirable and unsatisfactory practice about the issue of death certificates in an urban area was revealed.†

In recent years, apparently, certain practitioners, on the basis of information provided by the police, and without even performing an external examination of the dead body, have issued a statement that death was due to natural causes.

In the case of *Rex v. Ben Nyalase and two others* it was only after a burial order, issued by the magistrate on the certificate of the practitioner that death was due to natural causes, based in turn on information supplied by the police, that suspicious circumstances became known. Consequently the body was brought to the police mortuary for an autopsy, the result of which was to produce indisputable medical evidence that death was not due to natural causes but that, indeed, it was due to a fracture of the skull and extradural haemorrhage.

This, of course, is a most serious state of affairs and it may easily result in grave miscarriages of justice.

The conditions governing the performance of autopsies are very clearly laid down by statute. The Inquest Act No. 12 of 1919 clearly makes provision for dealing with the dead bodies of persons who appear to have come by their death from violence, criminal neglect or otherwise than from natural causes.

Deaths which do not fall within the scope of the Inquest Act clearly fall under the Births, Marriages and Deaths Registration Act No. 17 of 1923 as amended by Act No. 7 of 1934, which equally clearly makes provision for dealing with the bodies of deceased persons where no suspicion exists that death was not due to natural causes.

\* We are not concerned, on this occasion, with the problem of the issue of death certificates by interns, as this is not lawful at present.—*Editor*.

† "Urban area" means an area under the jurisdiction of a municipal council, borough council, town council, village council, town board, local board, village management board, health committee, or any other area from time to time defined by the Minister by notice in the *Gazette* to be an urban area for the purpose of this Act' (Act 17, 1923, sec. 49: *Interpretation of Terms*).

### VAN DIE REDAKSIE

#### DIE UITREIKING VAN STERFTESESERTIFIKATE\*

In 'n saak wat onlangs deur die Kaapse Afdeling van die Hoogereghof verhoor is (*Rex v. Ben Nyalase en twee ander*, 24 April 1950) is 'n onwenslike en onbevredigende gebruik in verband met die uitreiking van sterfteesertifikate in stadsgebiede aan die lig gebring.†

In die afgelope jare het sekere geneeshere skynbaar op grond van inligting deur die polisie verskaf, en sonder om selfs 'n uitwendige ondersoek van die lyk uit te voer, 'n verklaring uitgereik dat die dood aan natuurlike oorsake te wye is.

In die saak van *Rex v. Ben Nyalase en twee ander*, was dit slegs na 'n begrafnisbevel, deur die magistraat uitgereik op grond van die geneesheer se sertikaat dat die dood aan natuurlike oorsake te wye is, wat op sy beurt gegrond was op inligting deur die polisie verskaf, dat die agterdogwakkende omstandighede bekend geword het. Gevolglik is die liggaaam na die lykehuus van die polisie gebring vir 'n lykopening waarvan die gevolg was dat onbetroubare geneeskundige getuienis gelewer is dat die dood nie aan natuurlike oorsake te wye was nie maar inderdaad aan skedelbreuk en bloeding aan die buitekant van die harde harsingvlies.

Dit is natuurlik 'n uiterst ernstige toedrag van sake en kan maklik ernstige regsdwalinge tot gevolg hê.

Die voorwaardes aan die uitvoering van nadoodse ondersoeke verbonde word duidelik deur die wet bepaal. Die *Wet op Lijkschouwingen*, 1919, bepaal duidelik hoe daar met die lyke van persone wat skynbaar as gevolg van geweld, strafbare verwaarloosing of oorsake anders as natuurlik gedood is, te werk gegaan moet word.

Sterfgevalle wat nie binne die bestek van die *Lijkschouwingen Wet* val nie, ressorteer klaarblyklik onder die *Wet op de Registratie van Geboorten, Huweliken en Sterfgevallen*, Wet No. 17 van 1923, soos gewysig deur Wet No. 7 van 1934, wat netso duidelik bepaal wat met die lyke van oorlede persone gedoen moet word waaraan geen agterdog bestaan dat die dood aan onnatuurlike oorsake te wye was nie.

\* By hierdie geleentheid is ons nie begaan oor die kwessie van die uitreiking van sterfteesertifikate deur internse nie aangesien dit op die oomblik nie wettig is nie.—*Redakteur*.

† 'Stadsgebied' beteken 'het gebied onder het gezag van een municipaliteitsraad, stadsraad, dorpsraad, stadskomitee, plaatselflik bestuur, gezondheidsraad, dorpbestuursraad of alle andere kringen die van tijd tot tijd door de Minister door kennisgeving in die *Staatskoerant voor de doeleinden van deze Wet tot een stadsgebied verklaard worden*' (Wet 17, 1923, art. 49: *Woordbepalinge*).

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Chapter III, sec. 22 of this Act states: 'In the case of the death of any person who has not been attended during his last illness by a medical practitioner, if no inquest . . . has been . . . instituted, or if no certificate by a registered medical practitioner is produced stating that . . . death was due to natural causes, or if . . . the district registrar is not satisfied that death was due to natural causes, the district registrar . . . shall forthwith report to the magistrate such facts concerning the death as are known to him.'<sup>†</sup>

This section makes it plain that even where death may eventually be found to be due to natural causes, if there is no certificate forthcoming from a medical practitioner, the magistrate must be informed. The magistrate's further duties are laid down positively in sec. 24, which reads: 'The magistrate on receipt of any such report as is referred to in section twenty-two . . . shall instruct the district surgeon . . . to investigate the cause of death, and if, in the opinion of the district surgeon . . . death occurred from natural causes, the magistrate shall give an order authorizing burial. . . .' (Italics inserted.)

It is quite clear from sec. 24 that it is not the magistrate who decides that death is due to natural causes, but the district surgeon.

As these deaths fall outside the scope of the Inquest Act and appear to fall within the provisions explicitly made for them in the Births, Marriages and Deaths Registration Act, any procedure which departs from what is laid down by Act of Parliament, would be a most direct violation of a duty laid down by statute.

The Act makes it quite clear that the district surgeon is required to come to his conclusion about the cause of death *after he has investigated the cause of death*. The only kind of investigation which the statute can require the district surgeon or other medical practitioner to undertake is a *medical* investigation, and it would be in the highest degree unwise for any medical practitioner, when placed in such circumstances, to do a medical investigation which does not include an autopsy. Taylor (1948), in discussing autopsies states: 'An inquest without a careful external and internal examination of the body is a vain mockery.'<sup>§</sup> To issue a certificate without even having examined the deceased person externally might well amount to culpable negligence and the medical practitioner will find no excuse or justification in the fact that he was provided with misleading information, or that the procedure had had some administrative approval.

District surgeons and pathologists who have a considerable experience of medico-legal autopsy work, will very easily recall instances in which, despite an

Hoofstuk III, artikel 22 van die Wet bepaal: In het geval van het overlijden van een persoon die gedurende zijn laatste ziekte niet door een medies praktizijn behandeld werd, indien geen lijkshouwing . . . gehouden zijn . . . of indien geen certificaat van een geregistreerde medies praktizijn vernoemd wordt vermeldende dat . . . het overlijden het gevolg was van natuurlike oorzaken, of indien . . . de distrik registrateur . . . niet overtuigd is dat het overlijden het gevolg was van natuurlike oorzaken, doet de distrik registrateur . . . onmiddellik aan die magistraat verslag van zulke feiten betreffende het overlijden als aan hem bekend zijn.'<sup>†</sup>

Hierdie artikel stel dit duidelik dat selfs waar uiteindelik gevind word dat die dood aan natuurlike oorsake te wye is, die magistraat in kennis gestel moet word indien daar geen certificaat van die geneesheer is nie. Die verdere pligte van die magistraat word positief bepaal in artikel 24 wat lui: 'Bij ontvangst van een verslag zoals bedoeld word in artikel . . . tweeen-twintig . . . geeft de magistraat instruksies aan de distrik geneesheer . . . om onderzoek te doen naar de oorzaak van overlijden, en indien naar de mening van de distrik geneesheer . . . het overlijden het gevolg was van natuurlike oorzaken, geeft de magistraat een order waarbij de begrafenis gemachtigd wordt. . . .' (Skuinsdruk ingevoeg.)

Dit blyk duidelik uit artikel 24 dat dit nie die magistraat is wat besluit dat die dood aan natuurlike oorsake te wye is nie, maar die distriksgeneesheer.

Aangesien hierdie sterfgevalle buite die bestek van die *Wet op Lijkshouwingen* val en skynbaar ressorteer onder die bepalings wat uitdruklik daarvoor in die *Wet op de Registratie van Geboorten, Huweliken en Sterfgevallen* gemaak is, sou enige optrede wat afwyk van wat in die Wet van die Parlement bepaal is, 'n regstreekse verontgasming wees van 'n plig wat volgens wet bepaal word.

Die Wet stel dit heeltemal duidelik dat daar van die distriksgeneesheer vereis word om sy gevolgtrekking omtrent die oorsaak van die dood te maak *nadat hy die oorsaak van die dood ondersoek het*. Die enigste soort ondersoek wat die wet kan vereis dat die distriksof ander geneesheer onderneem, is 'n *mediese* ondersoek en dit sou die toppunt van onverstandigheid wees indien enige geneesheer, wanneer hy in sulke omstandighede verkeer, 'n *mediese* ondersoek uitvoer wat nie 'n lykopening insluit nie. Taylor (1948) sê by 'n besprekking van nadoodse ondersoeke: 'n Ondersoek sonder 'n noukeurige uit- en inwendige ondersoek is 'n klug.'<sup>§</sup> (Vertaling.) Om 'n certificaat uit te reik sonder om selfs die oorlede persoon uitwendig te ondersoek, kan maklik op strafbare versum neerkom en vir die geneesheer is dit geen verskoning of regverdiging dat misleidende inligting aan hom verskaf is of dat die handelwyse een of ander administratiewe goedkeuring gehad het nie.

Distriksgeneeshere en patoloë wat aansienlike ondervinding van medies-regskundige lykskouingswerk

<sup>†</sup> Chapter III of this Act is applicable to urban areas as defined.

<sup>§</sup> Taylor's *Principles and Practice of Jurisprudence*, 1948, 10th ed., Vol 1, p. 14; Edited by Sydney Smith. London: J. & A. Churchill Ltd.

Hoofstuk III van hierdie Wet is van toepassing op stadsgebiede, soos omskryf.

<sup>§</sup> Taylor's *Principles and Practice of Jurisprudence*, 1948, 10de uitgawe, Deel I, bl. 14; geredigeer deur Sydney Smith. Londen: J. en A. Churchill Bpk.

apparently innocent history as well as assurances that no foul play is suspected, the case may turn out to be one of murder, culpable homicide or even homicidal poisoning.

Many cases of poisoning cannot with any certainty be diagnosed exclusively on a second- or third-hand history and without the additional evidence which only an autopsy together with a toxicological analysis can provide. Indeed, an autopsy and a toxicological analysis would seem a *sine qua non* of such a medical investigation.

The serious import of such possibilities is at once appreciated when it is realized that a case of poisoning, masquerading under a history of natural causes, may well be one of murder for which the supreme penalty may be exacted by the State.

It is not without good cause that the State has laid down so clearly what the duty of the medical practitioner is in cases referred to him by the magistrate. It is not until the proper investigations have been made by the medical practitioner specially appointed for the purpose, that the magistrate is in a position to report what the cause of death is. On the result of the investigation may depend whether a criminal charge is to be preferred or an inquest held. No argument based on expediency, inconvenience, shortage of personnel, etc., should be allowed to influence the medical practitioner in the discharge of this most serious duty. When a practitioner assumes the responsibility of investigating the cause of death medico-legally, he cannot pursue this task adequately from a mere external inspection of the body, let alone without examining the body at all. In some set of most unusual circumstances it may be possible to dispense with an autopsy in a particular case, but this should always be regarded as a most serious exception to the general rule and a practice to be followed with the greatest hesitation and reluctance.

We have already stressed the importance of the fact that there are unlikely to be any external signs, in cases of homicidal poisoning, which might arouse suspicion in the mind of an investigating police officer, or of a medical practitioner, for that matter. These obscurities are not peculiar to cases of poisoning; they are equally important in head injuries and in many examples of so-called asphyxia. The point is too obvious to need further emphasis.

Medical practitioners must ensure that they carry out their statutory duties. They should not assume judicial functions or usurp the activities of the magistrate or of the Registrar of Deaths. When they have completed their medical investigations, they will make their reports in the normal way without lending themselves to any procedure whereby the need to do autopsies is circumvented. This is a matter which involves the highest principles of the medical profession.

As recently as 10 December 1932, the then Editor

het, sal hulle maklik gevalle herinner waar, ten spye van 'n skynbaar onskuldige geskiedenis asook verskerings dat gemene spel nie vermoed word nie, dit 'n geval van moord, strafbare manslag of selfs moorddadige vergiftiging blyk te wees.

Baie gevalle van vergiftiging kan nie met enige sekerheid uitsluitlik deur middel van 'n tweedehandse of derdehandse geskiedenis gediagnoseer word nie sonder die bykomende getuienis wat slegs deur 'n lykopening tesame met 'n giftigheidsonleding verkry kan word nie. 'n Lykopening en 'n giftigheidsonleding skyn inderdaan 'n *sine qua non* van so 'n geneeskundige ondersoek te wees.

Die ernstige betekenis van sodanige moontlikhede sal dadelik ingesien word wanneer daar besef word dat 'n geval van vergiftiging wat agter 'n geskiedenis van natuurlike oorsake skuil, geredelik moord kan wees waarvoor die doodstraf deur die Staat geëis kan word.

Dit is nie sonder goeie rede nie dat die Staat so duidelik bepaal het wat die plig van die geneesheer is waar gevalle deur die magistraat na hom verwys word. Voordat die behoorlike ondersoek deur die spesiaal vir die doel aangestelde geneesher gemaak is, is die magistraat nie in staat om die oorsaak van die dood te rapporteer nie. Van die uitslag van die ondersoek mag afhang of 'n kriminale aanklag gemaak sal word en of 'n lyksouing gehou sal word. Geen argument wat op dienstigheid, ongerief, tekort aan personeel, ens., gegronde is, behoort die geneesheer by die uitvoering van hierdie ernstige plig te beïnvloed nie. Wanneer 'n geneesheer die verantwoordelikheid aanvaar om die oorsaak van die dood mediesregkundig te ondersoek, kan hy nie sy plig toereikend nakom deur die lyk slegs uitwendig te ondersoek nie, om nou maar hoegenaamd geen lykondersoek nie daar te laat. In 'n reeks heeltemal buitengewone omstandighede mag dit in 'n besondere geval moontlik wees om van 'n nadoodse ondersoek af te sien maar dit moet altyd bekhou word as 'n baie ernstige uitsondering op die algemene reël, en 'n gebruik wat met die grootste weifeling en huiwerigheid gevolg moet word.

Ons het reeds die belangrikheid van die feit beklemtoon dat daar waarskynlik geen uitwendige tekens in gevallen van moorddadige vergiftiging sal wees wat agterdog by die polisieampenaar wat met die saak belas is, of wat dit betref, by die geneesheer, sal wek nie. Hierdie onduidelikhede is nie net eie aan gevallen van vergiftiging nie; hulle is netso belangrik by hoofbeserings en by gevallen van sogenaamde verstikkings. Die saak is so duidelik dat verdere beklemtoning onnodig is.

Geneesher moet seker maak dat hulle hul statutêre pligte nakom. Hulle moet nie geregeltlike funksies aanvaar of die werksaamhede van die magistraat of die Registrateur van Sterfgevallen op hulle neem nie. Wanneer hulle die geneeskundige ondersoek voltooii het, doen hulle normaalweg verslag sonder om enige prosedure te volg wat tot die ontdrukking van die behoefté aan 'n lykopening lei. Dit is 'n saak waarby die hoogste beginsels van die mediese beroep betrokke is.

So kort geleden as 10 Desember 1932 het die toenmalige redakteur van die *South African Medical Journal*

of the *South African Medical Journal* saw fit to publish an editorial under the title *The Honour of the Profession* (p. 755). The opening paragraph referred to the fact that judges and magistrates had commented adversely on the conduct of a medical witness who came before them: 'We have tried to obtain information on the points commented upon, and after careful consideration, we have come regretfully to the conclusion that the criticism from the Bench has in each case been justified by the facts. In all cases the medical witness failed to do a complete post-mortem examination or signed certificates without exercising due care.'

These words of warning assume additional importance as it is not the first time they have been spoken.

dit gerade geag om 'n inleidingsartikel onder die opskrif *The Honour of the Profession* te plaas (bl. 755). Die inleidingsparagraaf het na die feit verwys dat regters en magistrate ongunstige kommentaar gelewer het op die gedrag van 'n mediese getuie wat voor hulle verskyn het: 'Ons het gepoog om inligting in te win oor die sake waaroor kommentaar gelewer is, en na sorgvuldige oorweging moet ons tot ons spyt tot die gevolgtrekking kom dat die kritiek vanuit die Regbank in elke geval deur die feite geregverdig word. . . . In al die gevalle het die mediese getuie versuim om 'n volledige nadoodse ondersoek uit te voer of het hy sertifikate sonder die nodige versigtigheid onderteken.' (Vertaling.)

Hierdie woorde van waarskuwing is van meer belang omdat dit nie die eerste keer is dat hulle geuiter word nie.

## INFANTILE HEMIPLEGIA TREATED BY REMOVAL OF ONE CEREBRAL HEMISPHERE\*

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This communication is a preliminary report on a problem in which I have been interested for the past few years, and one which is doubtless familiar to all of you. Although infantile hemiplegia is a fairly definite clinical entity, it may be due to various causes, and its various manifestations may occur at different times. Some cases clearly fall into the Little's group. In many, however, the lesions arise later in infancy, or early childhood, and seem to be the result of infective, thrombotic or embolic events.

### THE SYMPTOM COMPLEX

**Physical Features.** A spastic hemiplegia of greater or less degree, and affecting the arm much more than the leg, is outstanding. Superimposed on the hemiplegia is an athetoid awkwardness described by the late Dr. Kinnier Wilson as a 'gaucherie of volitional act'. In addition there is undergrowth of the affected limbs, both in length and in bulk. Some cases show defects of the cortical sensory modalities and it is not uncommon to find a defect in one homonymous field.

Epilepsy is present in a great majority of cases, often focal and of the Jacksonian type, but generalized seizures, psychomotor equivalents and *petit mal* have all been observed. Osler stressed that one of the most common and distressing symptoms is the occurrence of convulsive seizures, but he also said, 'that more distressing still to the relatives is the enfeebled mental state which so often follows infantile hemiplegia'. Indeed in the cases under my observation it has been the mental state which has impressed me most strongly,

and in many it is the mental state rather than the hemiplegia or epilepsy which leads the parents to seek advice.

The mental changes cover a wide range from virtual imbecility at the one extreme to the mildest retardation at the other, but this is often associated with an asocial outlook which may well be related to the convulsive episodes. In the great majority an outstanding feature has been episodic outbursts of violent 'temper tantrums' which usually have no adequate cause, are short lived and suggest the possibility of their being epileptic equivalents. Some patients attribute these outbursts to a compulsive drive which they are unable to resist.

**Language Function.** Young children who have learned to speak and then develop infantile hemiplegia may lose this function. In other cases, speech may be little disturbed.

**Variety of Lesions.** These include both true and false porencephaly, intra-cerebral paraventricular cysts, arachnitic 'watery' cysts, microgyral formations, small sclerosed hemispheres, associated with vascular alterations in the territories of one or more of the main arteries. Each or any of these may be found either singly or in combination with the others. Air studies have been carried out in all our cases and show gross distortions of the ventricular system in the affected hemisphere.

**The Electroencephalogram.** This has shown in all cases gross dysrhythmia before operation. Electrocorticograms taken at operation have shown bizarre changes. After operation the electroencephalogram of the remaining hemisphere becomes to all intents and purposes normal.

\* Based on a paper read at the Medical Congress of the Association held at Cape Town in September 1949.

## TREATMENT

In the past the vast majority of these patients have had to rely on anticonvulsants for the management of their epilepsy. Orthopaedic surgeons have directed their attention to correction of deformities, and re-education by physical methods. Neuro-surgical endeavour has been largely concerned with local and limited cerebral operations for epilepsy where the episodes have been focal. Local excisions and incisions will in some cases stop fits, but in my experience they have no beneficial effect on the mental state, and I have noted little change in respect of the physical disability. Because of this and because of certain features of the electrocorticograms in these cases, I was led to a more radical procedure embodying removal of the affected hemisphere, with the exception of the thalamus, the caudate nucleus and its tail.

*The Operation.* A generous, lateral, osteoplastic flap affords all the room that is required. The hemisphere is divided into four segments by a vertical and a transverse incision of the superolateral surface extending into the ventricle. Each quadrant is dissected out, working from within the ventricle. The middle cerebral artery is taken just lateral to its antero-lateral ganglionic branches, i.e. just lateral to the anterior perforated substance. The choroid plexus is carefully coagulated and removed from the lateral ventricle. The dura is closed carefully, and a burr hole made in the centre of the bone flap for post-operative aspirations.

It will be seen that the whole of the cerebral cortex with the exception of that portion medial to the tail of the caudate nucleus is removed, together with the putamen, and globus pallidus (Fig. 1).



Fig. 1. Basal stump after hemispherectomy.  
 (1) Septum lucidum. (3) Wing of sphenoid.  
 (2) Caudate nucleus. (4) Thalamus.  
 (5) Tail of caudate nucleus.

What happens after operation can best be shown by describing in some detail the records of two of these cases, the first a child of nine years at the time of operation, and the other a young woman of 21 years.

## CASE REPORTS

**I: Case 1. A.H., Female.** This child was brought to me on 16 January 1945 at the age of nine years.

There was a story of a prolonged, difficult labour. The following is a letter from the child's mother when she made the appointment two months earlier. It is such a good presentation of the case that I take the liberty of setting it down in place of my own routine case history:—

'My little girl aged eight years was injured at birth by forceps. The injury was over the left eye, and I was told would cause no trouble. However, three days after she was born, she developed a jaundiced condition, had a collapse and became slightly paralysed on the right side. She was given calcium and recovered but has grown up with her right side affected. At first I considered it only a physical injury. She drags the right foot slightly and leaves her right arm hanging unnaturally. Now, however, I realize her brain, too, is affected. She is liable to go into unreasonable and unmanageable tempers, lacks the power to concentrate and she has mental lapses and rigors which I am told are epileptic. I regret I was not told the birth injury was the root of the trouble. I was given the impression that it was a physical fault on my part and have had no other children.'

The child had been institutionalized because of the 'temper tantrums' and irritability which made home discipline impossible. In the past 18 months there had developed mental lapses in which occurred grinding of the teeth, talking of complete nonsense, uncontrolled shouting, and the uttering of queer noises, lasting from one to two minutes. Mentally she was slow and backward, and she could not read or write. The cranial nerves did not show any deviations worth recording, the optic discs were of normal appearance and the visual fields were full. The right arm was shorter and less well developed than the left. Posture was typical, tone was increased and purposive movements exhibited a gross athetoid component. The right lower limb was shorter than the left, with slight equinus deformity and tone about natural. Moderate weakness was present of distal muscle groups both dorsi and plantar flexors. Her gait was clumsy. The tendon reflexes were brisker in the right upper limb than on the left, but about equal on both sides in the lower limbs. Abdominal reflexes were all present. The right plantar was of the extensor type. No significant loss was encountered for any of the sensory modalities. Ventriculography was carried out, and showed dilatation and distortion of the left ventricle.

*Operation: 9 February 1945 (Hemispherectomy, Left Side).* On coming round from the anaesthetic she was able to move the right arm and leg as well as before operation, but she now exhibited a right facial weakness. She was allowed up 12 days after operation, and was discharged from hospital at the end of four weeks. It is noteworthy that during the post-operative period she was sweet tempered and co-operative. Her mother was able to teach her the alphabet and within three weeks of operation she was beginning to read and understand simple sentences of the order of 'the cat sits on the mat'. The speed of learning was such as to make me think that the earlier educational attempts had not been entirely fruitless.

She was also making progress with her first steps in writing, e.g. pothooks, printing, etc. The most important feature was that she exhibited a desire to apply herself to these matters.

I last saw the child on 13 January 1949 and the following is an extract of my follow-up note: This

child is now 13 years of age. She is rather stout. Her mother tells me that her periods started about a year ago and these are quite regular. There have been no epileptic manifestations since the operation 4½ years ago, and she has had no anticonvulsants, which were only given for two months after operation. She is good at some subjects, particularly history. Her mathematics are weak; reading and writing she seems to have mastered all right. She does, of course, write with the left hand.

Her mother tells me that her association with other children is entirely normal, she is at boarding school and likes it. Owing to some clumsiness of the right arm she does not take part in general sport, but she is particularly good at swimming. Her memory is good for poetry. There has been no evidence of further attacks, or any of the emotional outbursts which were such distressing features of the case when I first saw her. Her span of attention is good, she is an excellent witness and co-operates well throughout the examination. In attitude she is a little shy and reserved during the first few minutes of the consultation, but soon settles down to a normal approach. Her walking is now nearly normal, and any disability that there is is not due to spasticity, or an athetoid element, but due to a relative slight shortening of about ¼ inch of the right leg with a slight shortening of the tendo Achilles, and some degree of pes equinus.

Neurological examination reveals a right congruous homonymous hemianopia with macular sparing. The corneal reflex on the right is not so brisk as on the left, but pin prick and cotton wool are normally appreciated in the trigeminal field on both sides. There is no facial weakness, and the tongue protrudes normally. Her speech is a little slurred, but this has always been so, and her mother tells me that in the home circle this entirely disappears.

There is slight relative shortening of the right upper limb as compared with the left but this is less noticeable than it was originally, and the muscle bulk is now nearly equal. There is still weakness of extension of the wrist, and flexion is good on both sides. Tone is perhaps slightly increased in the flexor muscles of the wrist. The reflexes of the right arm are only slightly increased as compared with those of the left. She is not using the right arm very well, e.g. when she is dressing herself, tying her shoe laces, fastening a buckle, etc. Posture is equally maintained on both sides. In the finger-nose-finger test, there is now only a small residue of the gross spastic athetoid element which was there before operation.

In the lower limbs power is good and equal in all muscle groups, except for some resistance of dorsiflexion of the right foot as a result of a slight contracture of the Achilles tendon. Purposive movements in the lower limbs are very accurately carried out, and the heel-knee-shin test was faultless on both sides. The muscle bulk is good and equal, and although there is shortening, this is now less than it was four years ago. In the lower limbs the reflexes are about equal and somewhat brisk on both sides. The right plantar is still extensor, and on the right, the abdominal reflexes, although present, are slightly less brisk than on the left.

Pin prick and cotton wool are equally well appreciated over all areas of the body, although on the first testing she thought that it was perhaps a little sharper on the left than on the right, but later was quite certain that this was not so. Joint sense was carefully tested in the fingers of both hands and at the wrists. She made several mistakes, three out of 10 in the right index finger and more mistakes for the little finger, on the right side, whereas the left was absolutely accurate. Wrist movements through a small range were equally appreciated on both sides. Two-point discrimination, thenar eminence, 1.2 cms., revealed an occasional mistake on the right side, but was accurate on the left. With eyes closed she had difficulty in finding the right forefinger with the left hand, but was very accurate in finding the left forefinger with the right hand. Localization of pain and touch was accurate on both sides.

*Comment.* Two years after the operation I became convinced that removal of the affected cerebral hemisphere from this patient had been followed by profound and lasting improvement. Not only was she free from fits, she was now sweet-tempered and could be educated. Thus I was led to carry out this operation in eight other cases of which the following is an example.

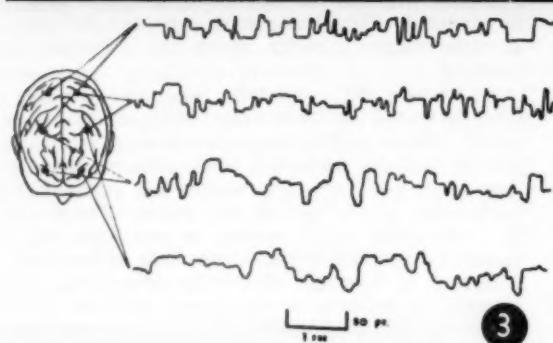
*II: Case 5, Miss A.* This young woman was first brought to me on 16 January 1948, at the age of 21 years. There was a story of delivery by caesarian section, and the infant was born with weakness of the right arm and right leg which has persisted. Fits commenced at the age of nine years. These were of the tonic-clonic type, starting in the right arm with spread to the right leg and right side of the face, and occurring at intervals of five to seven days. More recently, in addition to the above, she had developed minor episodes, during which she felt she was 'wearing an uncontrollable grin' and during which there seemed to be a momentary suspension of consciousness. These episodes occurred several times each week and were not controlled by drugs.

On examination her mental age was assessed at 10 years 4 months, and the I.Q. at 70. There was no disturbance of speech function. The visual fields were full. The limbs on the right side were shorter and less bulky than on the left, and displayed a spastic, athetotic state with increased jerks and extensor plantar response. Joint sense was poor in the fingers of the right hand, there was also inaccuracy of two-point discrimination and impairment of vibration on the right side. Tendon transplants had been carried out in the hopes of improving function of the right hand but the result, as one would expect, was to render this member even less useful.

This girl was unhappy, depressed and acutely aware of her disabilities. She did not work, had no amusements, did not read and was frightened to mix with other people. She would not go to places of entertainment 'for fear of an attack'. Her personal appearance meant nothing to her and she stated that she had 'nothing to live for'. The pre-operative air studies and electroencephalogram are shown in Figs. 2 and 3.



2



*Fig. 2 (Case 5, Miss A). Ventriculography. P.A. and right lateral views.*

*Fig. 3 (Case 5, Miss A). Pre-operative electroencephalogram.*

*Operation. 25 August 1948, Hemispherectomy (Left Side).* After the cortex had been exposed by an appropriate lateral flap, electrocorticograms were taken. The exposed cortex with markers and the tracings taken from these positions are shown in Figs. 4 and 5.

The motor cortex was mapped out by thyratron stimulation and is shown in Fig. 6, which also shows very clearly the thinned out gliosed cortex in the line of Rolando, in its lower two thirds. The arrangement of the blood vessels is noteworthy, as is the peculiar distribution of stimulable motor area. Complete hemispherectomy as I defined it earlier, was then carried out.

By the next day Miss A. was speaking normally, and movement of the affected limbs had returned to the pre-operative level. Progress in this case has been extremely gratifying and re-examination on 1 February 1949 (six months after operation), revealed the following:—

This girl's general appearance presented a very striking improvement on the pre-operative state. Previously she looked years older than her age and was particularly dowdy and careless about her dress. This morning she was smartly dressed, and made-up

and appeared to have developed an interest in her appearance. One also gained the impression that she had a certain poise which previously had been totally lacking. In conversation she stated she had much more confidence in herself than before the operation. Whereas formerly she had tended to avoid company, she now sought out her fellow beings, whose company she enjoyed and with whom she felt more comfortable than before. She also states that she has developed a lively interest in entertainment, such as the cinema, and feels that her memory and appreciation of current events has much improved. She has taken to reading the newspaper, and to general reading, for the pleasure of the occupation alone, and is certain she would now be able to learn more easily than formerly. She states that in carrying out occupational therapy she is using the right hand and arm more freely than before, and is enjoying the work given to her. There have been no seizures of any kind since the operation.'

*Neurological Status.* She had anosmia on the left side, with a right-sided homonymous hemianopia with sparing of the macula. Ocular movements were full and without defect, and no facial weakness was noted. There has been a very dramatic alteration in the tone of the right upper limb. In fact, there is no spasticity to be noted at all, although she still tends to carry the limb flexed at the elbow and adducted at the shoulder. One gains the impression that tone is entirely normal as compared with the normal limb. The fixed deformity at the wrist, resulting mainly from former surgical intervention, complicates the examination, but there is no evidence of spasticity in the muscles acting on this joint. Strangely enough, she does not exhibit a spontaneity of volitional movement one might expect

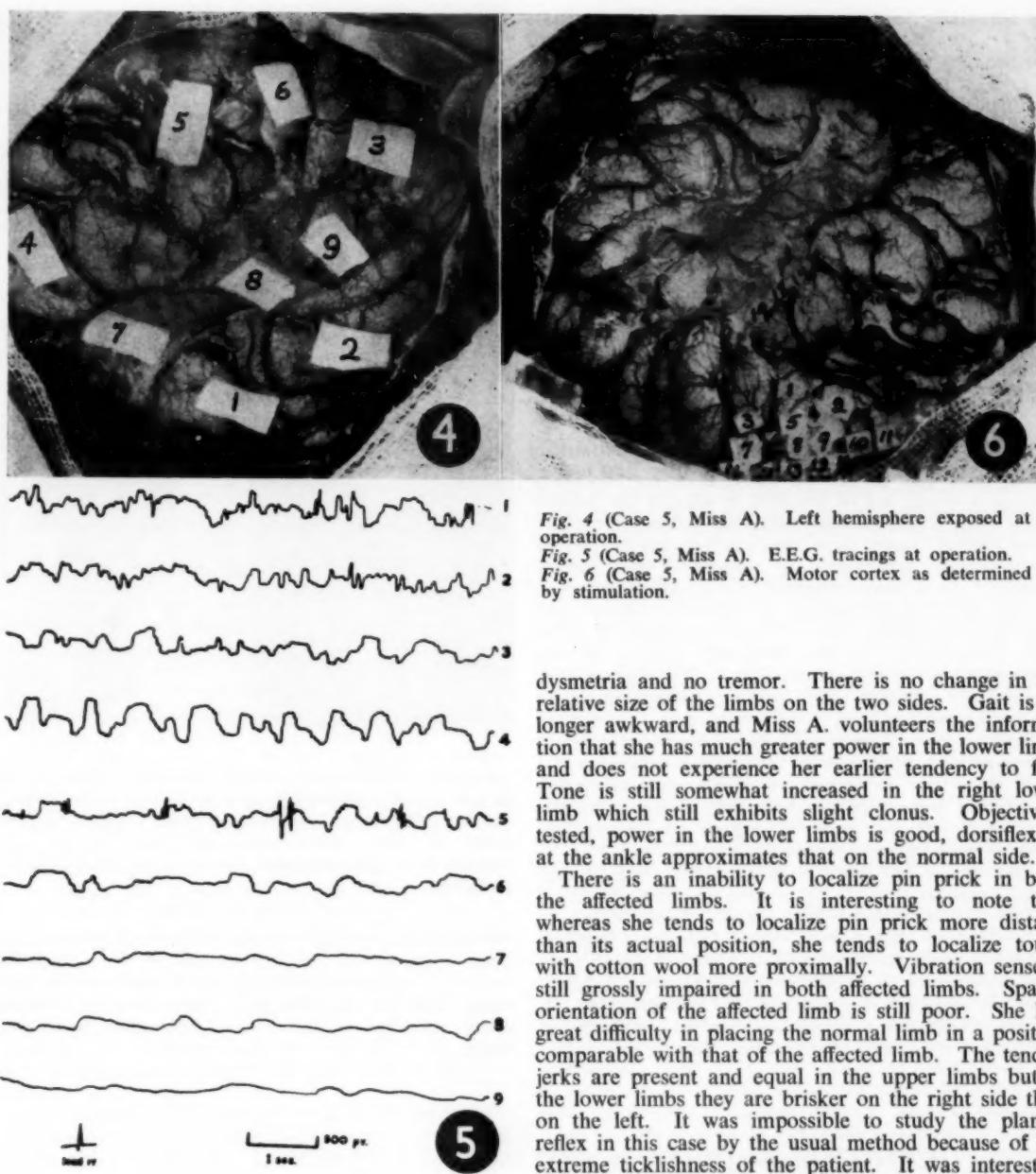


Fig. 4 (Case 5, Miss A). Left hemisphere exposed at operation.

Fig. 5 (Case 5, Miss A). E.E.G. tracings at operation.

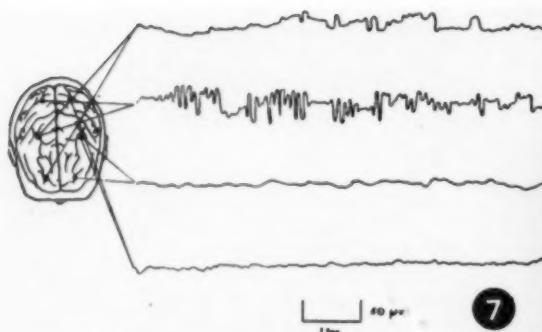
Fig. 6 (Case 5, Miss A). Motor cortex as determined by stimulation.

dysmetria and no tremor. There is no change in the relative size of the limbs on the two sides. Gait is no longer awkward, and Miss A. volunteers the information that she has much greater power in the lower limb, and does not experience her earlier tendency to fall. Tone is still somewhat increased in the right lower limb which still exhibits slight clonus. Objectively tested, power in the lower limbs is good, dorsiflexion at the ankle approximates that on the normal side.

There is an inability to localize pin prick in both the affected limbs. It is interesting to note that whereas she tends to localize pin prick more distally than its actual position, she tends to localize touch with cotton wool more proximally. Vibration sense is still grossly impaired in both affected limbs. Spatial orientation of the affected limb is still poor. She has great difficulty in placing the normal limb in a position comparable with that of the affected limb. The tendon jerks are present and equal in the upper limbs but in the lower limbs they are brisker on the right side than on the left. It was impossible to study the plantar reflex in this case by the usual method because of the extreme tickliness of the patient. It was interesting to note that the Rossolimo, Mendel-Bechterew and Hoffman signs appeared to be negative, but the Oppenheim gave an upgoing toe on the right side.

The last report I have had concerning this patient (it is now over a year since the operation was carried out) is that she is working and earning her living. She is not having sedative medication, and there has been no return of the ictal episodes. Post-operative E.E.G. recordings, and pictures of the patient are shown in Figs. 7 and 8.

with the general improvement in tone. Movements at the wrist, hand and fingers, have shown least return to a normal state. There is slight accession of flexion at the interphalangeal joints and no more. There is no forced grasping. Testing of purposive movements in the upper limb shows useful control over the muscles acting on the proximal large joints. There is no gross



*Fig. 7 (Case 5, Miss A). Post-operative E.E.G. recordings.  
Fig. 8 (Case 5, Miss A). Post-operative pictures.  
Left—Five weeks after operation.  
Right—Six months after operation.*

#### CONCLUSION

It has been put to me on more than one occasion whether it would not be possible to achieve the desired results with a less radical operative procedure. As I stated earlier, more local cerebral operations proved disappointing, particularly in respect of the mental changes. As I have indicated, electroencephalograms and the electrocorticograms at operation show considerable dysrhythmia, and it is my contention that the gross disturbances in the electrical pattern of the abnormal hemisphere are communicated to the opposite anatomically normal side by the inter-hemisphere communicating pathways with consequent disruption of normal physiological activities, particularly those concerned with highest level intellectual integration. I think that the post-operative electroencephalograms which, after some months, show little or no deflection from what one has come to regard as normal, are objective support for my contention.

Some alarm has been expressed that one should include removal of the occipital area and thus give these patients a homonymous field defect. With regard to this it is to be remembered that a significant number of these patients (in fact two out of my series of nine) have shown such a defect before operation. Furthermore, the defect when induced by operation has in no case constituted a subjective disability, and this is of course in accord with other experience. The



posterior half of the hemisphere is very often the seat of gross morbid changes, so that it has to be included in the removal and this, of course, from a technical point of view necessitates severance of the optic radiations so that to leave the calcarine area would be pointless.

#### ADDITIONAL NOTE

At the time of going to press, three more patients have been operated on, making a total of 12. There has been one death in the series, Case 6. One of the recent cases is to be regarded as a failure because of post-operative infection, and abscess formation in the basal stump.

## KEMITHAL SODIUM—A PRELIMINARY CLINICAL STUDY\*

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*Cape Town*

This paper deals with the first 50 cases anaesthetised with Kemithal Sodium, either alone, in combination with or followed by other anaesthetic agents, at Groote Schuur Hospital within the last few months.

\* This paper was read at the Medical Congress of the Association held at Cape Town in September 1949.

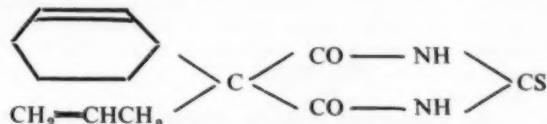
This report is preliminary only. It could not be otherwise with so small a number of cases. It is intended to present a full account of the study of this drug later on, when further investigation has been done on a much larger series of cases and when a more accurate evaluation can be achieved. It is hoped that, by that time, other workers will have published their results to add to

the extraordinarily scant literature on this latest addition to the ultra-short-acting barbiturates.

The Kemithal Sodium used in this study was donated by Messrs. African Explosives and Chemical Industries, Ltd., the South African agents of Imperial Chemical (Pharmaceuticals), Ltd.

#### CHEMISTRY AND PHARMACOLOGY

Kemithal is a new hypnotic drug, which was elaborated by Carrington and Raventós in the laboratories of Imperial Chemical (Pharmaceuticals), Ltd. Chemically, it is the sodium salt of 5- $\Delta^{2:3}$ -cyclohexenyl-5-allyl-2-thiobarbituric acid, which has the following construction:



Thus, the drug is more closely related to hexobarbitone (Evipan) than to thiopentone (Pentothal) and, therefore, it would be expected that the equi-active anaesthetic dose of Kemithal would be greater than that of thiopentone and would be nearer to that of hexobarbitone, which was found to be the case.

Kemithal Sodium is a pale yellow, slightly hygroscopic powder, with the odour of burned toast, and is readily soluble in water up to 20%; this solution is stable up to four to five hours and, if protected from the atmosphere, up to 24 hours. The pH of the 10% solution is given by Carrington and Raventós as 10.6 and by Mackintosh and Scott as 11.2; the results of pH estimations made in the Chemistry Department of the University of Cape Town by Dr. F. G. Helliman gave the result of 10.55. This compares with the 11.5 for a similar solution of hexobarbitone and the 10.6 for thiopentone.

After full chemical and pharmacological investigation by Carrington and Raventós (q.v.), this drug was given its first clinical trials by Professor Mackintosh and his colleagues of the Nuffield Department of Anaesthetics at Oxford.

Advantages claimed for this drug are:

1. It has a relatively higher therapeutic ratio than other drugs of its type.
2. It is less depressant to the respiration in equal planes of anaesthesia (about half as much as thiopentone).
3. It is almost completely destroyed in the body.
4. Laryngeal spasm is less likely to occur than with other barbiturates.

#### PATIENTS AND METHODS

The ages of the patients ranged from 12 to 68; 20 cases were classified as 'good risk'; the rest varied, down to 'serious'. The majority received morphine 1/6 gr. and atropine 1/100 gr. as premedication. The operations varied from short manipulative procedures to major abdominal ones.

Kemithal has been used in four ways:

1. As the sole anaesthetic, with or without oxygen, in short cases.

2. As the principal anaesthetic agent, combined with nitrous oxide and oxygen.

3. As the principal anaesthetic agent, combined with *d*-tubo-curarine chloride and oxygen.

4. As an induction to inhalational anaesthesia.

In all these ways, the method of administration chosen was that of intermittent intravenous injection, usually of a 5% solution, but in 12 cases a 10% solution was used. Both these concentrations are those recommended by previous workers and by the manufacturers.

It was, of course, impossible within the space of a few months to find anything approximating to a parallel series of cases to test a new, unknown drug against a known one, owing to the enormous number of variables in patient and operation, especially with so small a number of cases. However, a few clinical impressions appeared to be sufficiently well marked as to warrant recording.

#### CLINICAL FINDINGS

Kemithal Sodium was found to have a potency of about half, perhaps slightly less, than that of thiopentone, as judged by the dose required to obtain first plane anaesthesia, but, in equi-active doses, distinction between the two drugs would be difficult and sometimes might well be impossible.

**1. Induction.** Induction with a 5% or a 10% solution of the drug (comparable to the 2½% and 5% thiopentone solutions) was smooth and rapid; occasionally, muscular twitches have been observed. The dose varied according to the patient and his state, as with other barbiturates; the average amount required to produce first plane anaesthesia was 0.5 grm. to 0.9 grm., the extreme limits in this series being 0.3 grm. minimum and 1.8 grm. maximum. Recovery from the initial dose was rapid, often so rapid that, when the drug was being used as a preliminary to inhalational anaesthesia, the patient objected to the presence of the face-piece before the change-over could be established; this usually could be controlled by the further injection of 0.1 to 0.3 grm. of Kemithal Sodium.

**2. Respiratory Effects.** The majority of patients manifested an increase both in the respiratory excursion and in the respiratory rate, working up to what one might term a crescendo about 40 to 60 seconds after the injection of a normal dose of Kemithal Sodium, especially during induction. This phenomenon was followed by a momentary apnoea, the duration of which was usually 10 to 30 seconds and never longer than two minutes, or by a short period of markedly decreased tidal exchange of approximately similar duration. After this whole episode, the ensuing respiratory depression appeared to be less marked than that of thiopentone and certainly seemed to respond more readily to stimulating doses of carbon dioxide. When sufficient Kemithal Sodium had been given to permit of intubation being performed without glottic closure, respiratory arrest up to 30 minutes has occurred. This, of course, was gross overdosage.

**3. Cardio-Vascular Effects.** In most patients, a fall of blood pressure of 5 to 15 mm. Hg. occurred on induction, with some slight decrease in pulse pressure; coincident with this was a rise in the pulse rate of 10 to 15 beats per minute. Both returned to normal within

15 minutes in every case where a normal dose of Kemithal Sodium was used. Three cases manifested an increase of blood pressure up to 20 mm. Hg. systolic, with a slowing of the pulse rate by 10 to 20 beats per minute. In the three cases overdosed for intubation, decreased blood pressure (limit 20 mm. Hg.) has persisted up to 25 minutes.

*Rate of Recovery.* This varied from very rapid, with small doses, to prolonged, with large ones. In this series, the rate of recovery, especially from the smaller doses, appeared to be slightly more rapid than that of thiopentone under similar conditions. Protective reflexes were present in all but one case in which Kemithal Sodium was used as the principal anaesthetic agent before the patient left the theatre. One case returned to the ward with a metal airway *in situ*, despite the fact that her eyelids were blinking and she was capable of voluntary movement. In no case was recovery, as evinced by response to orders, delayed longer than 50 minutes; the average appeared to be about 20 to 25 minutes for major procedures.

#### COMPLICATIONS

1. *Coughing* occurred in one patient in this series during induction. Sneezing was not observed; four cases exhibited slight muscular twitching.

2. *Laryngospasm* did not occur in this series of cases, unless attempts were made to intubate under light anaesthesia; this manoeuvre is rather tempting, as the jaw relaxation is so good. Patients often tolerated a metal airway (admittedly lubricated with an anaesthetic ointment) under light anaesthesia without trouble. Exhibition of a strong ether vapour, however, resulted in a brisk laryngeal spasm in the only four cases in which this experiment was tried.

3. *Vomiting* occurred in two cases in which Kemithal Sodium was used as the principal anaesthetic agent. One occurred during induction for an emergency operation for appendicitis; the stomach had not been washed out. The other occurred during emergence from anaesthesia and appeared to be reflex in character.

4. *Post-anesthetic respiratory depression* was not observed in cases receiving Kemithal Sodium as the principal anaesthetic agent.

5. *Post-anesthetic excitement* was exhibited by two cases, both of whom had received Kemithal Sodium for short manipulative operations and whose premedication had consisted of atropine 1/100 gr. only. One patient returned to her normal mental state within ten minutes; the other required 45 minutes. The latter case,

incidently, had shown excitement after a previous anaesthesia in which thiopentone had been used; the condition had then persisted for two hours.

6. *Venous thrombosis* was not observed in this series, possibly because so few cases had received the 10% solution. It may be remembered that the alkalinity of Kemithal Sodium is as great as that of thiopentone, the 5% solution of which is reported to have caused occasional venous thromboses. Further, Kemithal Sodium is used in stronger solutions than thiopentone and might be expected to have a higher incidence of such complications.

#### CONCLUSIONS

Kemithal Sodium is an effective anaesthetic agent, about half as potent as thiopentone, the action of which it closely resembles when given in equi-active doses. However, certain small differences exist, which are mainly in favour of Kemithal.

These are:

1. The respiratory function appears to be less depressed in similar planes of anaesthesia. Response to carbon dioxide stimulation is greater.

2. Post-anesthetic respiratory depression appears to be less pronounced.

3. Post-anesthetic excitement appears to be definitely less.

4. Tendency to laryngeal spasm appears to be less.

5. Recovery from small doses may be slightly more rapid.

#### SUMMARY

Clinical impressions of the behaviour of Kemithal Sodium, a new ultra-short-acting intravenous barbiturate, based on 50 cases and a survey of what scant literature there is, are presented.

It is emphasised that this report is preliminary only.\*

My thanks are due to Dr. T. A. Fuller, Director of Anaesthesia, Groote Schuur Hospital, and to Dr. J. M. B. de Wet, Medical Superintendent, Groote Schuur Hospital, for permission to present this paper, and to Dr. F. G. Holliman, of the U.C.T. Chemistry Department, for the pH estimation.

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\* Since writing this paper, further cases have been done which have not altered my opinions concerning this drug.

## ISCHIORECTAL ABSCESS AND RELATED SUPPURATION

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The objects of this communication are:—

1. To focus attention upon the dangers inherent in an ischiorectal abscess, a lesion heretofore considered innocuous.

2. To stress the necessity for alertness where the complaint of unremitting ischio-anal pain is concerned.

3. To make observations relating to the early diagnosis of infra-levator (ischiorectal) and supra-levator suppuration.

4. To describe measures effective in the cure of such suppuration.

In the author's cases of advanced, complicated and/or

recurrent ischiorectal suppuration, delayed diagnosis protracted conservative therapy or limited and inadequate drainage were the factors that militated against early recovery. The prolonged invalidism, the necessity for repeated operation (one patient had been subjected to three operations elsewhere before consulting the author) the threat to life, especially in the elderly who are ill-constituted to withstand massive and prolonged suppuration (not to mention the mental and economic distress engendered), convinced the author of the need for publicizing and stressing the dangers inherent in infra- and supra-levator suppuration.

Since detailed information regarding the levator ani is indispensable to the successful treatment of neighbouring suppuration, the surgical anatomy of the muscle is briefly reviewed.

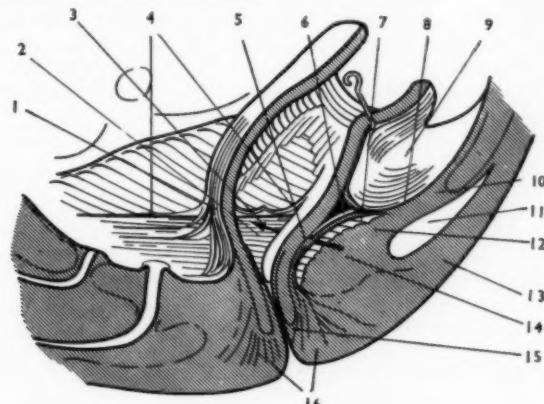


FIG. 1

**Fig. 1.** Drawing showing midsagittal section somewhat schematically, illustrating the relationships of the anorectum to the pelvic diaphragm and the anorectal musculature. A window has been cut through the lateral wall of the rectum, layer by layer, to show the relationships lateral to the rectum.

1. Combined longitudinal muscle layer (anterior to the rectum). This layer is composed of the longitudinal muscle layer of the rectum, fibres from the levator fascia and fibres from both the superior and inferior layers of the levator.

2. Inferior layer of the puborectalis muscle.

3. Arrow lying in the posterior levator space. This space surrounds the rectum like a horseshoe, with the open end of the horseshoe towards the pubis.

4. Superior layer of the levator muscle.

5. Combined longitudinal muscle layer of the rectum (posterior to the rectum).

6. Fibre from the superior layer of the levator, to the combined longitudinal muscle layer of the rectum.

7. Inferior boundary of the posterior levator space formed behind the rectum by the superior surface of the coccygeal muscular raphe.

8. Iliorectococcygeus muscle formed by the fibres from the iliococcygeus (striped), fibres from the longitudinal muscle layer of the rectum (smooth), and a few fibres from the levator fascia. This muscle forms the superior boundary of the posterior levator space behind the rectum.

9. The retrorectal space.

10. Coccygeal muscular raphe, attaching to the tip and sides of the coccyx.

11. Posterior subsphincteric space (connecting the two ischioanal fossae) bounded anteriorly by the posterior surface of the deep external anal sphincter, superiorly by the inferior surface of the coccygeal muscular raphe, and

inferiorly by the decussating fibres of the deep portion of the external anal sphincter as they insert into the skin.

12. Puborectalis muscle (the sling of the puborectalis behind the rectum).

13. Fibres from the deep external anal sphincter muscle inserting into the skin along the anococcygeal skin sulcus.

14. Deep external anal sphincter muscle (posterior to the rectum).

15. Anal intermuscular septum.

16. Subcutaneous anal sphincter. (After Courtney).

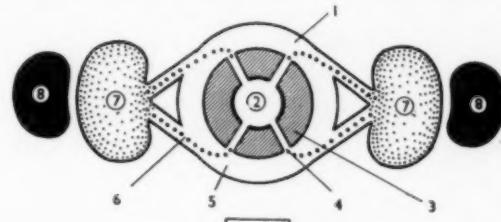


FIG. 2

**Fig. 2.** Schematic drawing depicting relationship of ischiorectal fossae to anterior and posterior subsphincteric spaces (origin of ischiorectal and horseshoe abscesses). The upper portion of the diaphragm is towards the anterior part of the body.

1. Anterior communicating space, part of circumanal space.

2. Anal canal.

3. Musculature of anal canal.

4. Preformed anal ductile.

5. Posterior subsphincteric space, part of circumanal space.

6. Track of infection to ischiorectal fossa.

7. Ischiorectal abscess.

8. Ischial tuberosity.

#### SURGICAL ANATOMY OF THE LEVATOR ANI MUSCLE

The following account pays tribute to Courtney<sup>3</sup> whose researches have furthered the elucidation of certain hitherto perplexing phenomena, viz:

(a) The genesis of the unilateral ischiorectal abscess.

(b) The genesis of bilateral ischiorectal abscess with particular reference to the co-existence of anterior or posterior horseshoe abscess.

(c) The association of posterior blind internal fistula and posterior horseshoe abscess.

1. The levator is a fan-shaped muscle, the fibres whereof arising from the pubis, 'white line' of endopelvic fascia and ischium become disposed in two layers, an upper (comprising the pubo-coccygeus, ilio-coccygeus and ischio-coccygeus) which gains attachment to the tip and sides of the coccyx (forming the coccygeal muscular raphe), while the lower (the puborectalis or 'sling' of the rectum) is thus adapted:

(i) The bulk of its fibres embrace the upper part of the anal canal to become the deep part of the sphincter ani externus.

(ii) Some fibres are prolonged upwards and backwards to join the coccygeal muscular raphe.

(iii) A number are projected downwards and backwards to decussate with corresponding contralateral fibres and find attachment in the skin of the ano-coccygeal groove (Fig. 1).

2. Behind the anal canal and between the two prolongations of the pubo-rectalis lies a fat-filled elliptical space, portion of a similar tract that encircles the anal canal at this level. The encircling tract is known as the circum-anal space, and its posterior portion as the posterior subsphincteric space or posterior communicating space since it is continuous with both ischiorectal fossae. The anterior part of the circum-anal space, i.e. the anterior communicating space, likewise effects communication with both ischiorectal fossae though anteriorly to the anal canal. Thus infection of any part of the circular tract may eventually spread to involve both ischiorectal fossae and produce either anterior or posterior horseshoe abscess or both concurrently as the present writer can attest.

3. In the posterior arc of the anal canal, to one or other side of the midline, is a preponderance of congenital or preformed anal ducts<sup>6</sup> which commence in the anal crypts of Morgagni and pass radially outwards for 1 to 5 cm., frequently penetrating the full thickness of the anal musculature and impinging upon the posterior communicating space. Perirectal inflammation as a consequence of anal cryptitis thus becomes a significant factor in the genesis of both posterior subsphincteric space and ischiorectal infection. With suppuration, a posterior horseshoe abscess is established while simultaneously the anal duct undergoes destruction and conversion to a blind internal fistula (Fig. 2).

4. The fibres of the levator, viewed from its under surface, course mostly from before backwards, the most laterally placed being bowed slightly outwards. This fact is of pivotal importance in the surgery of supra-levator suppuration, for the continuance of faecal control hinges directly upon the integrity of levator function (in particular upon that of the puborectalis or rectal 'sling' (Fig. 1). The levator fibres may therefore be gently separated for the institution of drainage, though an incision across these fibres is definitely prohibited. In the drainage of a posterior horseshoe abscess, Courtney deplores the use of the posterior horseshoe incision which he asserts divides the posterior reflection of the anal sphincter to the skin and may impair sphincteric control. He advocates the use of large sauerized lateral wounds (situate over the ischiorectal fossae), the preservation of the sphincteric reflection to the skin and the concatenation of the large sauerized lateral wounds by a soft rubber drain accommodated in the posterior communicating space. (In the present writer's experience, sacrifice of the sphincteric reflection to the skin, while facilitating bilateral ischiorectal drainage, has in no way violated sphincteric control. This procedure is moreover an important prelude to the surgical management of the tiny fistula that caused the posterior horseshoe abscess). The posterior horseshoe incision coupled with severance of the posterior sphincteric reflection become however imperative, when in addition to bilateral ischiorectal suppuration there is superadded involvement of the deep pelvic spaces, viz.: the posterior levator, the retrorectal and the lateral rectal (pelvirectal) spaces.

5. Composition of the Fascial Spaces about the Levator Ani.  
Deep pelvic spaces (supra-levator spaces)

Superficial pelvic spaces { infra-levator, ischiorectal or ischioanal circum-anal space subcutaneous space	{ retrorectal space lateral rectal spaces (posterior levator spaces)
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The supra-levator spaces lie between the pelvic peritoneum above and the levatores below, the areas lateral to the rectum being the lateral rectal (pelvirectal) spaces, while that behind is the retrorectal space. Pus may accumulate in one or more of these spaces. The posterior levator spaces are found posterio-laterally to the rectum and between the superior and inferior layers of the levatores as earlier described. The ischiorectal fossae lie below the levatores; their boundaries are detailed later. The circum-anal space is the continuation of the posterior subsphincteric space, and encircles the anal canal. The subcutaneous space disposed immediately below the integument in the perianal region, is part of the general fat-filled subcutaneous space and continuous with the fat-filled ischiorectal fossae.

6. Configuration and Boundaries of the Ischiorectal Fossae. There are two fossae, one on either side of the anal canal, each being pyramidal in shape with apex oriented antero-medially and base posteriorly. According to Bacon<sup>1</sup> each fossa is bounded above and medially, by the levator ani, external sphincter muscle and the anal fascia; laterally, by the tuberosity of the ischium, obturator fascia and obturator internus muscle; posteriorly, by the gluteus maximus muscle, the sacrotuberous ligament, coccyx, superficial fascia and skin; anteriorly, by the transversus perinei muscle and perianal (Colles) fascia, and inferiorly, by the integument. The two fossae communicate posteriorly through the posterior communicating space (which mediates the formation of the posterior horseshoe abscess) while the apices connect anteriorly through the anterior communicating space (which facilitates anterior horseshoe abscess formation).

#### PATHOLOGY OF ISCHIORECTAL SUPPURATION

The abscess may be acute, chronic or recurrent in nature.

*Modes of Infection of the Ischiorectal Fossa.* 1. *By the bloodstream.* Infection may occur during bacteraemia, e.g., from acute tonsillitis or dental extraction.

2. *By the lymphstream,* from an infective focus in the anal canal, e.g., a fissure, ulcer or infected thrombosed haemorrhoid; from a submucous, subcutaneous or cutaneous abscess.

3. *By direct spread,* from a neighbouring source of infection.

(a) from an inflamed crypt of Morgagni, the infection being transmitted along the perirectal tissues of congenital or preformed anal ductules to the posterior subsphincteric space and thence to the ischiorectal fossae. *This is the most frequent route of infection.*

(b) from a supra-levator (lateral rectal or retrorectal) abscess, after perforation of the levator by the pus.

(c) from infected urogenital organs, e.g., a prostatic abscess.

*Sequelae of Infection in the Ischiorectal Fossa.* (a) The pus may track downwards and rupture through the skin.

(b) Infection may spread laterally from one fossa to the other, usually behind the anal canal, causing a posterior horseshoe abscess, but occasionally in front of the anal canal to produce an anterior horseshoe abscess.

(c) Infection may pass upwards through the levator, to cause supra-levator suppuration.

#### DIAGNOSIS OF ISCHIORECTAL ABSCESS

In the investigation of a patient with ischioanal (ischiorectal) pain, consideration of the following elements will facilitate the diagnosis.

1. *Pain.* The pain of ischiorectal suppuration is:

On one or both sides of the anus;

At first merely discomfort, then a dull ache, later throbbing in nature;

Interferes with walking, sitting or lying;

Is made worse by defaecation;

Is associated with urinary retention;

Most important of all—it is absolutely constant and unremitting, never ceasing for a moment.

This last feature is of the utmost significance. If the patient states that the pain is constant, unremitting and throbbing in type, the lesion must be an abscess. The pain of thrombosed, internal or external haemorrhoids is also constant and unremitting, but the haemorrhoidal mass is very easily distinguished from an abscess by:

(a) The absence of a throbbing element in the pain;

(b) Immediate visibility of the thrombosed mass upon separation of the buttocks.

For practical purposes, therefore, constant ano-rectal pain implies the presence of an abscess, particularly the ischiorectal variety, until disproved by local examination. The complaint of ischioanal pain should strike a note of warning in one's consciousness, if extensive operations following belated diagnosis of ischiorectal suppuration are to be avoided.

2. *Perianal Swelling.* This swelling is found on one

or both sides of the anus, is tender, hot and indurated and in advanced cases, fluctuant. If large, it is easily discerned when the patient assumes the left lateral position. *A moderately sized or small abscess may however with facility elude recognition if the lateral position is favoured.* Any doubt regarding the unequivocal presence of an ischiorectal abscess will immediately be dispelled, if the patient is placed in the lithotomy position at the edge of the bed before the examination. The contrast in configuration of the buttocks is then obvious, the affected side becoming prominent, to facilitate diagnosis and permit of early operation with its attendant benefits. It is here requisite to declare that *the advent of antibiotics and chemotherapy has not abrogated the paramount necessity for early drainage in perianal and ischiorectal suppuration.*

3. *Proctological Examination.* Digital rectal examination should never be omitted. Firstly, it may establish the presence of a fluctuant supra-levator abscess whilst inflammatory phenomena in ischiorectal tissues are either absent or in embryo stage, though ischiorectal pain may be present. Secondly, even in the presence of obvious ischiorectal suppuration, the causative lesion (at times a carcinoma recti) will be missed except for digital rectal examination. Thirdly, a submucous abscess or other rectal lesion demanding immediate surgical attention may be discovered. Sigmoidoscopy becomes necessary if the presence of a malignant lesion above the tip of the examining finger is suspected.

4. *Presence of Constitutional Disturbance.* Pyrexia, rapid pulse and malaise are common.

#### DIFFERENTIAL DIAGNOSIS

The diagnosis of an ischiorectal abscess becomes straightforward if the clinician will remember that *constant, uninterrupted perianal pain signifies the presence of suppuration.* A throbbing element in the pain reinforces the validity of this assumption, while further investigation of the patient having regard to—*the perianal swelling, the results of proctological examination and the presence of constitutional disturbance will clinch the matter.*

On occasions, however, the clinical picture of ischiorectal abscess may be confused with that of a subcutaneous, submucous or supra-levator abscess pilonidal suppuration; acute prostatitis, prostatic abscess or acute seminal vesiculitis. Certain distinguishing particulars (*vide infra*) then become available, to aid in clarifying the diagnosis.

*Subcutaneous Abscess.* A tender, fluctuant swelling is found at the anal verge, induration being absent.

*Submucous Abscess.* A tender, fluctuant swelling is felt in the anal canal. Pain, tenderness and induration are absent from the ischiorectal region.

*Supra-levator Abscess.* The earliest symptom is discomfort experienced deep in the pelvis; unexplained difficulty in micturition follows, while pain in the ischiorectal region is a later complaint. Induration of ischiorectal tissues is absent in the earlier stages of the illness, but follows perforation of the levator by pus pent up in a supra-levator space. Again, in the early

stage of supra-levator suppuration (before ischiorectal suppuration has supervened), digital rectal examination will establish the presence of a fluctuant swelling above the levator and protruding into the rectal lumen.

*Pilonidal Suppuration.* An inflammatory process is discovered in the midline posteriorly, over the lower part of the sacrum. Pain, tenderness and induration of ischiorectal tissues are absent.

*Acute Prostatitis, Prostatic Abscess, Acute Seminal Vesiculitis.* The prostate is enlarged, hot, smooth, tender and may be fluctuant. The seminal vesicles (normally not palpable) are felt as tender, doughy swellings.

#### TREATMENT

From the preceding account it is patent that the earlier surgical drainage is instituted, the sooner will the patient be healed and the less likely are serious complications to supervene.

*Anaesthesia.* Intravenous sodium pentothal solution followed by gas and oxygen administration is satisfactory. The patient is placed in the lithotomy position and draped.

*Drainage of an Infra-Levator (Ischiorectal) Abscess.* It is generally recommended that this abscess be evacuated through an overlying cruciate incision or through a sagittal one whereof the lateral skin flap is excised. While these measures may suffice in the case of a small unilateral abscess, they are hopelessly inadequate for a large unilateral or bilateral abscess (the posterior or anterior horseshoe abscess). The ideal procedure in the latter cases is the construction of a shallow, 'saucer-type' wound, the whole extent of the abscess being unroofed and its depths exposed, so that obliteration may proceed harmoniously through conflux of granulations at the wound-centre anticipating ingrowth of epithelium from its periphery. Unless extensive denudation of the abscess is effected, superficial closure, in advance of central obliteration, will lead to 'pocketing', retention of infective material, recurrent abscess formation and the necessity for secondary drainage operations (always extensive and not-to-be-relished procedures). All overlying skin and necrotic fat should therefore be removed, care being taken to prevent the formation of undermined skin flaps beneath which infection will lurk. It is in the neighbourhood of the external sphincter that 'ledge-formation' may unwittingly occur, unless specific counter-efforts are instituted.

In the unroofing of a bilateral (horseshoe) abscess, it is necessary to sacrifice a large area of skin either anteriorly or posteriorly to the anus. However, there need be no qualms about complying with the surgical requirements of the situation even though integumentary continuity of the anus with the buttocks, perineum and coccygeal regions is completely disrupted. As a reward for obedience to the principles involved, one may be certain that nature will effect satisfactory closure of the wound whilst union of anal and peripheral skin will be restored without mishap.

A small blind fistula, traversing the distal part of the anal musculature near the midline posteriorly, may be discovered at operation and should be laid open. It is

the remnant of the congenital or preformed anal ductule that connected an inflamed crypt of Morgagni with the posterior subsphincteric space. Or, the fistula occluded by oedema at operation, may declare itself only late in convalescence when it should be dealt with.

As a rule, the levator does not come into view, even though much necrotic ischiorectal fat be removed. The under surface of the muscle is always covered by a layer of fat that forms the upper wall of the abscess. If muscle fibres however appear in the depths of the wound and especially if they course in an antero-posterior direction, then the operator should beware, for he is facing a levator that is preternaturally depressed. Suspicion aroused, he should subject the under surface of the levator to visual and digital examination for an opening through which pus, confined under tension in the supra-levator space, is escaping into the ischiorectal fossa. The opening is soon found. A finger introduced through this opening should then explore the lateral rectal and retrorectal spaces, with a view to delimiting the extent of supra-levator suppuration.

*Drainage of a Supra-Levator Abscess.* Since the fibres of the levator course antero-posteriorly, any incision through the muscle but parallel to its fibres will drain a supra-levator abscess satisfactorily yet in no way impair function of the muscle nor precipitate faecal incontinence. An incision at right angles to the muscle fibres is proscribed. When the abscess is pararectal in location, an antero-posterior incision 1 inch from the midline of the anus and  $1\frac{1}{2}$  inches long should be made. If the abscess is retrorectal, the  $1\frac{1}{2}$  inches incision is placed more posteriorly yet parallel to the posterior section of the levator (the fibres in that situation running backwards and slightly inwards). Care must be taken to avoid injuring the median muscular raphe posterior to the anus, i.e. the fused fibres of the recto-coccygeus muscles. A corrugated rubber drain 1 inch in width is introduced for 2 inches into the abscess cavity and maintained in position by a skin stitch for 48 hours. It is thereafter discarded.

#### POST-OPERATIVE REGIMEN

In the post-operative period, the clinician should be assiduous in his attention to certain measures which promote the patient's sense of well-being whilst accelerating wound-closure. These are:—

1. Control of infection.
2. Amelioration of post-operative languor.
3. Maintenance of protein balance.
4. Mitigation of anaemia.
5. Careful toilette of the wound.

*1. Control of Infection.* Once an infra-levator abscess has been adequately drained, regular baths and dressings of tyrothricin solution will soon eradicate infection and expedite healing. In the case of supra-levator suppuration, much can be achieved by the judicious combination of antibiotics and chemotherapy. The medicaments of choice are streptomycin administered parenterally and sulphasuxidine or sulphathalidine per os. In particular is adjuvant therapy recommended for the elderly in whom daily re-infection of the

wound is prone to occur through contamination at stool, especially when toxic diarrhoea or rectal irritability prevails. Irrigation of a supra-levator cavity is contraindicated. The ingress of fluid mechanically disseminates infection, increases the area of suppuration and hence the degree of toxæmia. It moreover renders the wound so malodorous (from the presence of a mixed proteus infection) that the patient of necessity has to be isolated.

If despite the above measures, supra-levator suppuration continues unabated and toxæmia increases, serious consideration must be given to diversion of the faecal stream, through the construction of a left iliac loop-colostomy.<sup>4</sup> The operation can be performed under local anaesthesia with little inconvenience to the patient and will afford the juxta-anal wound complete protection against recurrent faecal contamination. This life-saving measure was first recommended in a similar exigency (the presence of 'watering-can' perianal fistulae) by Sir Hugh Devine.<sup>4</sup>

*2. Amelioration of Post-operative Languor.* This object is achieved through oral administration of the following:—

(a) Protein hydrolysate or palatable preparations of amino-acids, e.g. Glycoelixir (Squibb).

(b) Large doses of vitamin B complex (so necessary when metabolic processes are increased and when infection is both prolonged and accompanied by fever).<sup>5</sup>

(c) Large amounts of vitamin C (500 mg. daily while suppuration is in progress). The use of vitamin C in large dosage is based upon the work of Beattie,<sup>2</sup> who demonstrated the great demand created for this substance by surgical and accidental trauma (and in the writer's experience by prolonged suppuration). When 500 mg. of ascorbic acid were administered daily to patients with fractures, as many as 21 days elapsed before 150 mg. were recovered from the urine. The demand for vitamin C in the presence of suppuration need not occasion surprise, for the deposition of inter-cellular matrix is regulated by this substance, whilst in the reduction of toxæmia, it aids by enhancing the defensive powers of the adrenal cortex.

*3. Maintenance of Protein Balance.* In the presence of free suppuration, the protein requirements of the body rise steeply (from elaboration of leucocytes, inter-cellular matrix and fibroblasts). Unless these requirements are met, hypoproteinaemia ensues with resultant delay in healing. True, efforts are made by the body economy to replenish the supply of blood protein and in the process the patient loses flesh, sometimes markedly so. If this negative sequence is to be arrested, it is imperative that the protein intake, diminished through toxæmia and poor appetite, be augmented by intravenous alimentation. It is accordingly the author's practice to furnish the relevant patient with transfusions of fresh blood (one half-litre on alternate days for three counts) to be followed immediately by intravenous infusions of protein hydrolysate (one litre after each transfusion). *It is remarkable how the combination of transfusion and infusion will succeed in reducing the patient's temperature to within normal limits, where*

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*previously massive doses of antibiotics proved ineffective.*

The patient should in addition be encouraged to eat heartily of all protein foods, particularly 'red' meat, for unless the drain of protein is arrested or counterbalanced, wasting to the point of emaciation may result.

**4. Mitigation of Anaemia.** It is unnecessary here to labour the disadvantages of anaemia—the normal oxidative and metabolic processes are hampered and healing delayed. It is however important to emphasize that the normocytic hypochromic anaemia consequent upon prolonged suppuration *does not respond to the administration of iron and liver extracts*,<sup>7</sup> but requires transfusions of whole blood for its eradication.

**5. Careful Toilette of the Wound.** The large shallow or 'saucer-type' wound resulting from the correct drainage of a supra-levator or infra-levator abscess (particularly the horseshoe type) needs meticulous attention if setbacks are to be avoided.

i. The wound should be inspected at least on alternate days, when the tendency towards early 'pocketing' may opportunely be discovered and remedied. Good illumination is a prerequisite for such inspection.

ii. Baths should be taken twice daily, commencing soon after the bowels have moved (two to three days after operation).

iii. Dressings should be flat, moistened with tyrothricin solution and applied to the superficial part of the wound. Packing should be avoided for it hinders free drainage and coalescence of wound surfaces, encourages 'pocketing' and retards healing.

iv. Irrigations benefit the infra-levator abscess and should preferably be of tyrothricin solution. In the supra-levator abscess, they are detrimental and for reasons previously cited should be omitted. As the wound becomes more shallow, tyrothricin paste (Tyroderm paste) may with advantage be substituted for the solution of the same name. The paste with its greater adhesive properties, exerts its salutary effects over correspondingly greater periods of time.

v. Exuberant granulations may develop and require cauterization with the silver-nitrate stick.

vi. Epithelial Ingrowth. In contradistinction to what happens in (v), epithelial ingrowth may be retarded through premature cicatrization of granulations. In this event, dressings of chloresium paste will revitalise the granulations and speed up epithelial advance.

vii. Decubitus and Ambulation. In the initial period of convalescence, the patient should be cared for indoors. As he gains strength, however, nursing out of doors should be substituted, because of its undoubted tonic effect upon both patient and wound. He should as soon as possible, become ambulant, for the erect posture encourages drainage and the resumption of normal physiological processes in the body. Finally, the clinician will be wise to withhold his consent to the patient's leaving for home until the wound has completely epithelialized.

## ILLUSTRATIVE CASES

**1. Simultaneous Anterior and Posterior Horseshoe Abscess.** The patient, a lady aged 54 years, complained of exquisite pain in the perianal region. On examination, the right ischio-

rectal area was markedly swollen and tender, the contralateral area being less affected. A perforation through which malodorous pus exuded, was visible in the skin to the right of the anus. The abscess had been diagnosed 14 days earlier, but the practitioner had relied solely upon the use of antibiotics, in the hope of excluding surgery. Operation revealed the presence of bilateral ischiorectal suppuration with coexistent anterior and posterior horseshoe abscesses. In the unroofing process, much skin was removed, the anus becoming isolated in the centre of a large raw area. The wound however healed steadily, epithelialization being complete within four-and-one-half months. The aid of a skin-grafting procedure for hastening wound-closure was refused. In the last fortnight of convalescence, the tiny fistula previously occluded by oedema, declared itself and was incised, whereafter union of anal and surrounding skin occurred smoothly and without mishap. Four years have elapsed since the operation and the patient has remained well.

**(2) Recurrent Anterior Horseshoe Abscess.** A young lady, aged 18 years, was referred from a rural area where she had previously undergone three operations for a recurring left ischiorectal abscess. At the left side of the anus was a scar 1 inch long, exhibiting an opening through which a probe passed anteriorly and to the left, between anus and vagina. Radiography after the instillation of lipiodol confirmed the existence of a tract 4 to 5 inches long in the location above mentioned, there being several blind offshoots. Once again a large area of skin was removed for the construction of a shallow wound. Healing progressed uniformly and was complete after five weeks. This was the first occasion within 10 months that total epithelialization had occurred.

**(3) Recurrent Posterior Horseshoe Abscess.** The patient, a lady aged 40 years, had been subjected elsewhere and one year ago, to an operation for the drainage of a posterior horseshoe abscess. Within a month of a severe attack of tonsilitis, however, the abscess recurred. The pain was constant and throbbing in nature, whilst a perianal swelling characteristic of a posterior horseshoe abscess was present. The scar of the previous operation was excised and the abscess totally unroofed, a long shallow wound remaining. No tiny fistula was discovered. Healing at the end of a month was almost complete, when the patient left for home at her own urgent request but against advice. At a subsequent consultation it was evident that the wound-edges were becoming undermined and the granulations prematurely fibrosed. Chloresium paste was prescribed for revitalization of the granulation tissue. The patient's early departure for home was apparently necessitated by preparations for an overseas voyage in connection with the illness of a close relative, but the incident nevertheless emphasizes the great desirability of maintaining the patient under observation until epithelialization is complete.

**(4) Combined Supra- and Infra-Levator Suppuration.** The patient, a gentleman aged 73 years, presented the clinical picture of bilateral ischiorectal suppuration, with a history strongly suggestive of supra-levator abscess formation. The earliest symptoms were vague pain deep in the pelvis, followed by sudden and inexplicable urinary retention that responded only to repeated catheterization. The temperature was 102° F, the pulse rate 100 per minute and the patient semi-comatose from toxæmia and the influence of anodyne drugs. On rectal examination a fluctuant mass was palpable above the right levator, while the prostate was moderately enlarged. The patient was obviously very ill, though his history extended back for only five days. Through a posterior horseshoe incision, the perianal region was explored to disclose the presence of suppuration in both ischiorectal fossæ, a posterior horseshoe abscess, a large perforation in the right levator and an enormous supra-levator abscess occupying the retrorectal space and both lateral rectal spaces.

Because the patient's life was menaced by toxæmia, a much bolder attack was eventually made upon the huge abscess than was preoperatively envisaged. After construction of the posterior incision, a large amount of skin and subcutaneous fat were removed, and a long parasagittal cleft introduced into each levator so as partly to divide the coccygeal muscular raphe and thus promote the freest possible damage. Pus streamed forth. For several weeks thereafter the discharge was most profuse and the patient lost flesh rapidly. Massive doses of penicillin and streptomycin failed to curb the suppuration,

while lavage of the huge cavity served only to exacerbate the purulent flow. Blood transfusions coupled with protein hydrolysate infusions temporarily halted the patient's decline, but a troublesome diarrhoea suddenly occurred to cause superadded and mounting infection of the wound. The discharge meantime was extremely offensive and the patient had to be isolated.

It was now evident that unless radical measures were instituted the man was doomed. Diversion of the faecal stream (through a left iliac loop-colostomy) was accordingly suggested and fortunately received his approval. The operation was performed within 24 hours (i.e. one month from the original drainage procedure) and was the harbinger of steady progress. The discharge abated, the huge cavity gradually receded and the patient's appetite improved tremendously. Transfusions and infusions now caused rapid and almost dramatic subsidence of the temperature and the drowsiness of toxæmic origin vanished. However, several months elapsed before the patient could muster sufficient strength to become ambulant.

The initial month of the illness was further complicated by chronic retention of urine, partial suppression of renal function and early uræmia. This setback was countered by vesical drainage through an indwelling catheter, and the administration of copious fluids by a vigilant and capable nursing staff.

To date (five months after the first operation), the perianal wound is almost healed, the dimensions of the cavity have been reduced to those of a forefinger, the patient is ambulant and is eating well. The instillation of chloresium fluid is being utilized to accelerate proliferation of granulations and therefore closure of the cavity. When the latter project is a *fait accompli*, repair of the colostomy wound will be broached to the patient.

#### SUMMARY

The tendency of an ischiorectal abscess to be bilateral in distribution and to be associated with posterior

horseshoe abscess, anterior horseshoe abscess and occasionally supra-levator suppuration is stressed.

The clinical course of such suppuration is protracted, debilitating and costly.

The anatomy, pathology, diagnosis and differential diagnosis of ischiorectal and related suppuration are considered at length and the minutiae of treatment recounted.

Since the practitioner may be lulled into a sense of false security through his exhibition of antibiotics, he is warned that the latter cannot and indeed should not be made to deputize for correct surgical drainage of an ischiorectal abscess, if prolonged invalidism or complications of serious significance, are to be obviated.

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## PROCEDURES IN THE CONTROL OF TUBERCULOSIS

### THE PRACTICAL APPROACH: 1. NURSING IN TUBERCULOSIS. THE USE OF NURSE AIDES

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It is an unpalatable fact that there are not enough nurses in the world to care for the sick. A second unpalatable fact is that nurses do not like nursing the tuberculous sick. The main reasons for this are:

(a) The pay. Although in some hospitals an infectious disease allowance is granted, the pay is not sufficiently greater than that awarded for nursing general cases.

(b) One of the attractions of Nursing is marriage to a congenial patient and the prospects of marriage to a person with tuberculosis are not attractive.

(c) The fear of infection and the usual cynical rejection of the nurse who has contracted tuberculosis by the body which employs her.

In the continent of Africa tuberculosis is the major Public Health problem. To wait until sufficient young women have spent four and more years in training to be nurses and then to expect only those who are not employed, i.e. by general hospitals, to nurse the tuberculous is not a practical way of dealing with the problem.

The only way is to train young women of any race who can read and write, in a short time (say not more than three months before undertaking ward work) to care for those who suffer from tuberculosis.

The basic teaching is that they must be kind to sick people and perform those simple acts which make sick people comfortable. Kindness, proper feeding of the patient, bed making, bathing, the provision of bed pans and urine bottles, temperature and pulse taking, and the giving of simple medicaments are the essentials.

Four years ago I was faced with 1,000 empty beds, more than 1,000 patients to fill them and no nurses. With the help of an enthusiastic Sister (Mrs. Tapson) I decided to train Bantu, Coloured and Indian girls to perform the duties outlined above. An experimental class of 40 was recruited, of girls who had passed Standard 6 and within four years all the beds were filled and 300 non-European Nurse Aides employed. In the whole period some 840 girls were trained so that actual numbers were kept constant. This formula can be applied to the whole continent of Africa and to any other part of the world which wishes to come to grips with an urgent tuberculosis problem.

All is not easy. The annual wastage is about 40%, but the girls receive a training in hygienic living which makes them better mothers and better citizens when

they leave the hospital. The trainees have all the faults of the 'primitive', but can be taught if the teacher has infinite patience.

We have found that one fully trained European Sister, who is sympathetic and firm, can control 15 Nurse Aides as a team and that this team can care for 60 persons ill with tuberculosis.

The way of life of the Nurse Aides must be kept in mind, their feeding habits, their attitude towards sex, their tendency to avoid responsibility; a thorough knowledge of all of these faults and a sensible approach to a method of living which in no way approximates to that of Western races are very necessary to success. Another important point which will eventually be dealt with in the process of evolution and careful training is the attitude of the primitive male towards the female, the lack of respect and a refusal to accept discipline from womenfolk.

The syllabus of training is that of any elementary nursing college with a bias to practice rather than to theory and the use of class mates instead of models for practical work. At the end of three months a written paper and a practical examination are given, at least 70% of the marks being given for practice.

The Aides are then sent to the wards, but spend for the next six months two hours a week at the nursing school receiving further practical instruction and lectures. At the end of six months another practical and written examination is taken. Then after a three months' break a final series of lectures and demonstrations given over a period of six months (once weekly). At the end of this period a final practical and written examination is taken and a certificate is issued, a certificate which is a statement of fact and not a qualification.

We have found from experience that it is best to discharge all trainees who fail at the initial examination and to give two chances only at each of the subsequent examinations.

The remuneration of Nurse Aides is a matter of local rates in each individual country, but in South Africa we have found the following rates satisfactory.

#### *Coloured and Indian*

£36 per annum for 6 months.  
£48 per annum for 6 months.  
£60 per annum  $\times$  £6—£90,  
plus privileges, with Cost-of-Living and Infectious Disease and Shoe Allowances = £6 10s. 9d. per month Living-In Commencing Wage.

Girls Living Out receive £8 12s. 3d. per month, commencing wage. All meals must be taken in the hospital when on duty.

#### *Bantu*

£36 per annum for 6 months.  
£48 per annum for 6 months.  
£54 per annum  $\times$  £6—£84 plus privileges, Cost-of-Living, Infectious Disease, and Shoe Allowances = £6 2s. 9d. per month Living-In Commencing Wage.

Girls Living Out receive £8 5s. 3d. per month but all meals must be taken in the hospital when on duty.

The syllabus of training is as follows:—

#### NURSE AIDE TRAINING COURSE

##### First 3 Months of Course—Intensive Study—School Practical Work

1. Tour the hospital.
2. Daily temperatures, pulse and respirations.
3. Domestic Ward-work.

The photographs illustrate Nurse Aides at work.



Figs. 1-3. Nurse Aides—Practical Work.  
Fig. 4. Nurse Aides—Theoretical Work.

4. Putting on of gowns—caps, masks and washing of hands.
5. Stripping beds and giving basins to patients able to wash themselves.
6. Giving of bed-pans and urinals—cleaning same and observing contents.
7. Blanket bathing—numerous times.
8. Collecting of sputum—its destruction as actually done in the hospital.

9. Making different types of beds—and various positions in bed.
10. Changing sheets of helpless and/or incontinent patients.
11. Actual bathing of ill patients.
12. Routine back care.
13. Actual back care (Ward Demonstration).
14. Care of bed sores (Ward Demonstration).
15. Enemas—give each other.
16. Care and cleaning of rubber goods. Filling Hot Water bottles and placing in beds.
17. Demonstration—Care of linen utensils, bedding and bedsteads—names of apparatus.
18. Demonstration. Feeding of patients—very elementary diets.
19. Setting trays—back and mouth.
20. Cutting and preparing dressings for drums.
21. Fomentations and cold compresses.
22. Lifting and turning helpless patients.

#### Lectures

1. Discipline—rules of hospital, pay, leave, punctuality and hospital etiquette.
2. Morals, personal and general hygiene with special emphasis on shoes, baths and period care.
3. What a nurse is meant to be. Emphasis on relation to male patient.
4. Elementary Anatomy.
5. Elementary Physiology.
6. Words, phrases, tables, apparatus.
7. Tuberculosis.
8. Sputum and its destruction.
9. Collection of sputum, urine and stool for examination.
10. Bed making, types and uses.
11. Admission, discharge or transfer of a patient.
12. Blanket bathing, bathroom bathing of children and adults; care of hair, nails, pressure parts.
13. Pressure sores, causes, prevention and treatment.
14. Care of linen, utensils, bedding and bedsteads, names of apparatus.
15. Enemas.
16. Last Offices.
17. Feeding of patients—very elementary diets.
18. Observation of patients.
19. Bandaging.

*At the End of Three Months:*—Practical Examination and three-hour written paper.

*Day's Work:* 3½ hours—cleaning and practical work; 2½ hours—lectures; 1 hour—study.

Six months following the preliminary course a practical class and demonstration and one lecture weekly are given. These follow closely and are a repetition with more detailed reasoning, of the first course.

There is a three months' break before the final six months' training.

*Final Six Months:* One practical class demonstration and lecture weekly. Revision, refresher on previous classes. Lectures by Medical Officers on routine methods of treatment of tuberculosis. Examination and certificate. After certificate all girls should be brought back to the school at least once a year for a refresher course.

It is essential that Nurse Aides should have their health carefully guarded and the following routine is suggested:

#### CARE OF NURSE AIDES WORKING IN TUBERCULOSIS HOSPITALS

In view of the fact that tuberculosis is an infectious disease, the following general procedure should be adopted in all Institutions where cases of tuberculosis are found.

1. The health of the staff should be the particular care of a Senior Medical Officer.
2. All hospital floors should be oiled once monthly with a mineral oil (Shell JD2) to prevent dust-borne infection. All dusting and sweeping should be done using damp technique.
3. If possible laundry should be treated with mineral oil to prevent dust-borne infection.
4. Ward offices and other rooms should be exposed to direct sunlight for controlled periods each day.
5. The care of patient's sputum mugs and paper handkerchiefs and the disposal of sputum and contaminated paper should be in the hands of one member of the Staff, specially trained in such duties.
6. Patients should be taught to cough into handkerchiefs, spit into sputum mugs and in all possible ways avoid infecting others.

TABLE A: FACTS CONCERNING NURSE AIDES CONTRACTING TUBERCULOSIS AT SPRINGFIELD HOSPITAL, DURING PERIOD MAY 1946 TO MARCH 1950

Hospital Staff Number	Date of Appointment	Date Warded	Tuberculosis Reaction at Time of Appointment	Type of Disease
8	April 1947	16 June 1947	Patch+	Infiltration and cavitation left mid-zone.
210	15 April 1947	13 November 1947	Patch+	Minimal infiltration left apex.
103	1 November 1946	1 July 1947	Patch+	Minimal infiltration right sub-clavicular zone.
65	1 August 1946	3 November 1947	Mantoux+	Pleural effusion.
		Re-admitted 14 June 1948		
129	1 February 1947	24 November 1947	Patch+	Bilateral apical infiltration.
75	1 August 1946	8 January 1948	Patch+	Pleural effusion.
78	1 August 1946	1 May 1948	Patch+	Cavity left mid-zone.
67	1 August 1946	1 May 1948	Mantoux+	Minimal infiltration.
233	1 June 1947	1 May 1948	Patch+	Pleural effusion.
411	1 December 1947	22 May 1948	Mantoux—ve	Primary tuberculosis with enlarged hilar glands.
519	1 June 1948	12 December 1948	Patch+	Bilateral soft infiltration.
452	15 March 1948	22 October 1948	Patch+	Pleural effusion.
47	1 December 1948	19 July 1948	Patch+	Assman's focus right sub-clavicular zone.
463	1 March 1948	20 January 1949	Mantoux—ve	Minimal infiltration left apex.
598	1 December 1948	10 March 1949	Patch+	Tuberculous glands. Small pleural effusion.
91	1 November 1946	10 July 1949	Patch+	Pleural effusion.
294	1 May 1948	26 November 1949	Mantoux—ve	Soft acute infiltration with cavitation right upper lobe.
535	1 June 1948	26 November 1949	Patch+	Minimal infiltration with pleural effusion.
418	1 December 1947	19 November 1949	Mantoux—ve	Pleural effusion.
336	12 September 1947	1 March 1950	Patch and Mantoux—ve	Minimal infiltration of apex.

7. Staff working in wards and in direct contact with patients should wear a coat over their uniforms, and when leaving the infected environment should discard the coat. All members of the staff should wash their hands on leaving the wards and before entering.

8. The Matron or Lady Warden should see that the Nursing Staff is fed on adequate diet and that the nurses are instructed in methods of hygiene in their living quarters and in the wards. Written instructions should be given to each nurse on joining the staff.

9. All persons joining the staff should be examined clinically and radiologically. Height and weight should be recorded. Blood sedimentation rate should be estimated, and a Standard Tuberculin test should be done.

10. All members of the staff should be weighed monthly and X-rayed every six months. Any loss of weight should be reported immediately to the responsible Medical Officer, and loss of weight for two consecutive months should receive careful clinical and radiological examination.

11. All members of the staff should be encouraged to report even minor departures from good health to the responsible Medical Officer.

12. Negative Tuberculin reactors should be informed of this fact and that also it is certain that they will become positive and that it is preferable that the change should occur under careful Medical observation. They should be retested every month thereafter.

13. When a previously negative reactor becomes positive he should be re-examined physically and radiologically and it should be explained by the Medical Officer that most town dwellers go through a primary tuberculous infection at some time of their lives and know nothing about it, and that the same uneven course is the probable lot of recently infected persons working in tuberculosis hospitals.

14. Conversions (negative to positive) should be divided into:

i. Persons with no symptoms, no X-ray evidence of primary complex, no increase of sedimentation rate.

ii. Persons with no symptoms, no X-ray evidence of disease, but whose sedimentation rate has increased.

iii. Persons with no symptoms, but who have X-ray evidence of primary disease.

iv. Persons with symptoms and who are clinically ill.

#### DISPOSAL

1. Increased rest and eight-hour shift—ensure 12 hours in bed each 24 hours. Close observation by Medical Officer, monthly blood sedimentations, and frequent X-rays. If at the end of three months all is well, then resume normal existence.

2. Four-hour shift, four hours recreation then bed for 16 hours. This to go on until sedimentation rate is normal and Medical Officer is satisfied clinically and radiologically that no further trouble has eventuated.

3. Bed for one month—then re-assess blood sedimentation and clinical and X-ray findings. To continue until sedimentation rate is normal and Medical Officer is satisfied complex is quiescent.

Careful observation until primary complex is calcified or has disappeared.

4. Full hospital regime under appropriate treatment.

Table A shows the number of nurses who contracted tuberculosis in this Institution, and their tuberculin reaction before disease. Of all Nurse Aides (840) employed at this hospital 23.5% were tuberculin negative at commencement of training, 76.5% were tuberculin positive.

#### SUMMARY AND CONCLUSIONS

There are not enough nurses in the world to care for the sick.

Nurses do not like nursing tuberculous cases.

In the continent of Africa tuberculosis is the major Public Health problem.

We will never have sufficient fully-trained nurses (five-six years) to deal with the problem.

We must train in a short time Nurse Aides of all races to nurse the tuberculous sick.

Kindness to the sick and the performance of simple actions which make sick people comfortable are the basis of training.

One fully-trained nurse with 15 Nurse Aides can care for 60 cases of tuberculosis.

Unless we adopt a realistic attitude to the nursing of tuberculosis we will never be able to cope with this aspect of the problem of tuberculosis control.

The syllabus of teaching and the salary scales are outlined.

The importance of adequate care of the health of Nurse Aides is stressed.

I have to acknowledge with thanks the help obtained from the Joint Tuberculosis Council's *Memorandum of Advice on Mantoux Conversion in Hospital and Institution Staffs*.

#### VERENIGINGSNUUS : ASSOCIATION NEWS

##### DINNER IN HONOUR OF DR. C. RESNEKOV

A dinner in honour of Dr. C. Resnekov, who is leaving for Europe and Israel, and who is resigning from the Superintendency of the Woodstock Hospital, was held on Saturday, 10 June 1950 at the International Hotel, Mill Street, Cape Town.

Dr. W. Lennox Gordon presided.

There was a full and enthusiastic attendance of members and ex-members of the Medical staff.

Dr. Z. J. de Beer proposed the health of Dr. Resnekov and dwelt on his long and unstinted services to the Woodstock Hospital. As a neighbour and colleague, and as one who had known Dr. Resnekov for many years, Dr. de Beer felt that he was particularly in a position to stress the high regard in which Dr. Resnekov was held by both the Profession and the public.

Dr. W. Lennox Gordon, who is succeeding Dr. Resnekov as Honorary Medical Superintendent of the Woodstock Hospital, then presented him with a gold watch as a mark of appreciation for his 32 years' service on the medical staff.

In his reply Dr. Resnekov said he was deeply moved by the warmth and sincerity shown by his colleagues present. He felt that it was a very great wrench to sever his life-time associations here, and his close connexions with the Woodstock Hospital, but he dwelt on the miracle of the establishment of the State of Israel and felt that he could not resist the call to make his home there.

Many other doctors present then paid tribute to Dr. Resnekov's distinguished services and generosity and a highly enjoyable evening ended at a late hour.

S. Sieff,  
Medical Advisory Sub-Committee, Honorary Secretary,  
Woodstock Hospital, C.P.

#### THE BENEVOLENT FUND

The following contributions to the Benevolent Fund during May 1950 are gratefully acknowledged:

*Votive Cards: In Memory of:*

Mr. J. J. T. King by Dr. Vernon Brink.

Mrs. E. B. Goldberg by Dr. A. W. Sichel.

W. F. Collender by Dr. L. H. Bowkett.

*Total Amount Received from Votive Cards:* £4 4 0

*Services Rendered to:*

Dr. F. D. Pascoe by Drs. Gordon Johnstone and Elsdon-Dew, Dr. J. A. MacFadyen.

Dr. and Mrs. F. H. Scroggie by 'Johannesburg Practitioners'.

Dr. W. B. Fiddian-Green by Dr. Lucas Young.

*Total Amount Received from Services Rendered:* 108 18 0

£113 2 0

## THE MEDICAL ASSOCIATION OF SOUTH AFRICA

## EXCESSIVE OR EXTORTIONATE FEES

## MEMORANDUM ON SECTION 80 OF THE MEDICAL, DENTAL AND PHARMACY ACT

## 1. TERMS OF REFERENCE

The S.A. Medical and Dental Council intimated by public announcement at its meeting in March 1950, that it has under consideration the provisions of Section 80 of the Medical, Dental and Pharmacy Act and that it is prepared to consider representations on this subject from the public and from members of the medical and dental professions. Such representations should be in the body of the Council not later than 15 August.

At its last meeting the Federal Council of this Association resolved to submit the question of the possible revision of Section 80 to its Branches and Divisions for their opinions. A committee consisting of the undersigned members was appointed with instructions to collate the replies submitted by Branches and Divisions and to draft a memorandum. In view of the urgency of the matter, the Committee deems it expedient to submit a preliminary memorandum embodying the views of the Committee at the present time and suggests that this be circularized to Branches and Divisions for their comment.

## 2. SECTION 80 OF THE ACT

## (a) This section reads as follows:—

(1) 'No person registered under this Act shall himself make or attempt to make or to recover, or shall enter into any agreement or associate himself in any way with any other person for the purpose of making or fixing, excessive or extortionate charges for any service rendered or to be rendered or for any article supplied or to be supplied by him by virtue of being so registered.'

(2) Unless the circumstances are such as to render it impossible so to do, every person registered under this Act, shall, before rendering any service by virtue of being so registered, inform the person to whom the service is to be rendered, or the person in charge of such person, of the fee which he intends to charge therefor—(a) when so requested by any person concerned; or (b) when such fee exceeds that usually charged for the service.

(3) Any person registered under this Act who claims payment from any other person in respect of any service rendered or article supplied by virtue of being so registered shall furnish a detailed account to the person from whom payment is claimed.

(4) Any registered person who contravenes or fails to comply with any provision of this section shall be guilty of improper or disgraceful conduct within the meaning of Chapter IV of this Act, and it shall be the duty of the council or board to take cognizance of and deal with such conduct under that Chapter.' (Printed as amended by Act No. 14 of 1946.)

(b) The Committee is unaware of any similar provision in the Medical Acts of other countries. Nevertheless, the Committee is agreed:

(1) That medical practitioners render essential services to the community and it is therefore in the public interest that adequate safeguards should exist against abuse in the matter of fees charged for such services.

(2) That it is in the interests of the profession itself that such safeguards should exist since the excesses of

the few may reflect upon the honour and prestige of the profession as a whole.

(c) The civil Courts are competent to resolve disputes regarding fees but the procedure is generally costly and unsatisfactory to practitioner and patient alike.

(d) In terms of Section 80 certain acts have been stigmatized as improper or disgraceful conduct on the part of a medical practitioner:

- i. Failure to render a detailed account of services rendered.
- ii. Failure to inform the patient of the fee which it is intended to charge if so requested by the patient or person responsible for the patient.

iii. Charging a fee which exceeds that which is 'usually charged' for the service without informing the patient in advance of the fee which it is intended to charge.

iv. Charging or attempting to recover a fee which is 'excessive or extortionate' even though the patient may have agreed in advance to the payment of such fee.

These acts have been made offences of which the Council *shall* take cognizance and deal with by taking disciplinary action in terms of Chapter IV of the Act. It is worthy of mention that in all other matters involving complaints, charges or allegations of improper or disgraceful conduct on the part of a practitioner the Council *may*, but is not compelled to, hold an enquiry.

(e) Extortion and the charging of 'extortionate fees' are readily recognizable as most serious ethical offences; but it is the view of the Committee that the introduction by the Legislature of other and less serious matters under the provisions of this Section has created a certain disorientation of ethical values as universally recognized by the medical profession. With the exception of 'extortionate charges' the civil Courts are, as previously stated, fully competent to resolve disputes regarding fees without the serious imputations of improper or disgraceful conduct on the part of the practitioner.

## 3. USUAL FEES

(a) Difficulties have arisen regarding the meanings of certain terms used in this Section. In order to establish what is the fee 'usually' charged for a particular service the Council has hitherto been guided at disciplinary enquiries by evidence submitted by individual practitioners practising in the same area as the practitioner who has been charged under this Section. In addition, the members of a disciplinary committee are entitled to use their own knowledge. The above procedure is obviously unsatisfactory since practitioners generally have no guide to what may be construed by the Council as a fee which is higher than usual.

In representations made to the Council in 1947, the Association undertook to furnish the Council with tariffs of 'customary' or 'average' fees to private patients for the various areas of the country. It was

considered that such tariffs would also assist practitioners in the computation of their accounts, with particular reference to what might be considered 'usual' fees in terms of Section 80 of the Act. The Association also suggested the establishment of Local Assessment Committees in its Branches and Divisions to which the Council could refer for information regarding such items as might not appear in the tariffs and for opinion with regard to what might be considered a valid variation from the scheduled fee when regard is had to the particular circumstances of a case. On two occasions Local Assessment Committees of the Association have in fact been consulted by the Council.

(b) In offering to submit tariffs of customary or average fees the Association's representatives expressed the view that some elasticity in the matter of fees is essential. It is clear that the skill and experience of the individual practitioner can no more be reduced to a common denominator than can the ability of the individual patient to pay for services rendered. The nature of the service rendered in terms of a particular item of a tariff may vary within wide limits, as may also the circumstances in which the service is rendered. All the relevant circumstances should therefore be taken into account in utilizing the tariff. No tariff of 'usual', 'customary' or 'average' fees can go further than to indicate the fees generally charged, by practitioners of equal standing in a particular area, to patients in average financial circumstances for services rendered under average conditions.

(c) The Committee is opposed to a tariff of 'maximum fees'. While such a tariff would have the merit of definitiveness it would have to take into account all possible variations of the relevant circumstances and provide for remuneration which would be reasonable and adequate even in the most extreme cases. In our opinion such a tariff would not be in the best interests of the public since it might create a tendency on the part of practitioners to increase the fees usually charged in order to approximate the maximum tariff; the 'maximum' fee might even come to be recognized as the 'usual' fee for the service.

(d) The Committee therefore endorses the proposals previously made on behalf of the Association that in determining the fee which is usually charged for a particular service the Council should recognize the tariffs of customary or average fees submitted by Branches and Divisions of the Association and should, when necessary, also consult the Local Assessment Committees of the Association.

It appears unnecessary to amend Section 80 to give effect to this recommendation, but appropriate provision should be made in the Regulations.

#### 4. EXCESSIVE OR EXTORTIONATE CHARGES

(a) Under Section 80 (1) and (4) of the Medical, Dental and Pharmacy Act, No. 13 of 1928, making, recovering or agreeing to charges which are 'excessive' or 'extortionate' constitutes improper or disgraceful conduct of which the Council must take cognizance and deal with under Chapter IV.

(b) 'Excessive charges' are not defined. The ordinary meaning of 'excessive charges' would be those

which are greater than usual, necessary, beneficial, right or proper. It could therefore mean, firstly, charges which are merely higher than the usual charges; but it can also connote, secondly, improper overcharging. The second meaning imports reprehensibility into the practitioner's conduct, whereas the first meaning does not. The difficulty is to ascertain which of the two meanings was intended by the Legislature.

(c) There is much to be said for the view that the Legislature used the words in the second meaning, viz. improper overcharging, because:—

i. Section 80 (2) actually envisages that fees exceeding those usually charged can be fixed or charged. It could not, therefore, have been intended that such charges would necessarily be 'excessive' and the practitioner guilty of improper conduct for making such charges.

ii. 'Excessive charge' is linked with 'improper or disgraceful conduct', which suggests that there must be some impropriety in charging more than the usual fees.

The above seems to have been the view taken by Ramsbottom, J., in the Witwatersrand Local Division in *McLoughlin's* case (15 April 1947).

(d) On the other hand it would appear from *McLoughlin's* and *Lipron's* cases that the Council interprets 'excessive charges' in the first sense, i.e. as charges which merely exceed the usual charges. In *McLoughlin's* case, the Appellate Division seems to have approved of that view, although it did not deal specifically with the problem now being canvassed; and in *Lipron's* case it apparently assumed that that was the correct view.

(e) It would appear, therefore, that as the law is interpreted at present a practitioner could be subjected to all the publicity of a disciplinary inquiry, found guilty of 'improper or disgraceful conduct', and liable to the penalties under Section 42 (1) of the Act, if he merely charged more than the usual charges even though there might not necessarily have been anything reprehensible in his conduct.

(f) The Committee considers that a practitioner should only be deemed guilty of 'improper or disgraceful conduct' and liable to the penalties in Section 42 (1) of the Act, if the overcharge was so excessive as to be unethical, reprehensible or immoral. If this view is accepted, it would be necessary to amend Section 80 (1) to put the matter beyond doubt by deleting the word 'excessive' and substituting some other word which would clearly give effect to that view.

For that purpose the Committee considered such words as 'unreasonable', 'unconscionable', 'improper', 'exorbitant', etc., but has come to the conclusion that the best substitute is 'grossly excessive'. Having regard to the fact that the word 'excessive' is at present used, the Committee thinks that 'grossly excessive' would clearly convey that it is not merely a charge that exceeds but only one that grossly exceeds the usual charge which is improper.

(g) At present no machinery is provided enabling the Council to reduce a charge or fee which it finds is 'excessive' (or 'grossly excessive' if Section 80 (1) is amended). Neither the practitioner nor the patient knows at the end of the inquiry what the charge or

fee should be, and unless they can agree on it, they would have to resort to the ordinary civil Courts to have the amount determined. Moreover, if the fee was previously agreed upon, then even though the Council found it 'excessive', legally the practitioner could still recover it in the civil Courts unless the patient can show some cause for resiling from his agreement.

To meet the above position it is suggested that the Act should be amended to provide that when the Council finds that a fee or charge is 'grossly excessive' under Section 80 (1) (as to be amended), it may reduce the charge or fee to what it considers to be a reasonable amount.

The Council would be in an excellent position, having heard the matter fully, to decide what should have been charged; it would expeditiously resolve the matter between practitioner and patient and its finding would to some extent constitute a guide to practitioners charging for similar services in the future.

#### 5. CHARGES EXCEEDING THE USUAL CHARGE

(a) As previously stated, it is feasible for tariffs of usual charges for various areas to be framed and we understand that they have been compiled, or are in the course of being compiled, in most Branches of the Association.

(b) The Committee considers that the patient has a right to know, before engaging the services of a registered person, not only what his fee will be, but what the usual charge is for such services. This would enable the patient to decide whether or not to engage the services of the practitioner if a fee higher than the usual charge is asked for. If this view is accepted Section 80 (2) can be amended by adding to the end of sub-paragraph (b) thereof, the following:—

'in which event he shall also inform such person of the usual fee for the service.'

(c) If a practitioner charged more than the usual fee without informing the patient of the usual fee, it is considered by the Committee that the Council should be empowered after due and summary investigation to reduce the fee on complaint to the usual fee unless the practitioner could justify the fee charged. This would also involve an amendment to Section 80 (2).

(d) It is submitted that the above amendments give ample protection to the public. If the fee charged is grossly excessive, whether or not the patient was informed of the usual fee, the practitioner would be guilty of improper or disgraceful conduct under Section 80 (1) and the fee could be reduced.

On the other hand, if the fee charged exceeds the usual fee (without being grossly excessive) the practitioner would not be guilty of improper or disgraceful conduct, but the Council could reduce the fee to the usual fee, unless the patient had agreed to the fee charged after being informed of the usual charge, or unless the practitioner could satisfy the Council that the fee charged is not an unusual fee having regard to all the circumstances of the case.

(e) In such cases it seems that it would be unnecessary to constitute any contravention or failure to comply with Section 80 (2) 'improper or disgraceful conduct', as is the position at present. Section 80 (2) should therefore be excised from Section 80 and

re-enacted with the amendments suggested as a separate Section, so that Section 80 (4) would no longer apply to it.

#### 6. DETAILED ACCOUNT

(a) Section 80 (3) originally only required a practitioner to render a detailed account 'when so requested by such person'. These words were deleted by Act 14 of 1946. The Committee does not know the reasons for the deletion. As the Section stands at present it means that a practitioner who fails to render a detailed account is guilty of improper or disgraceful conduct; he could therefore be subjected to a disciplinary inquiry in public and be punished as provided in Section 42 (1) of the Act.

(b) The Committee considers that whilst such consequences might be justified where a practitioner fails or refuses to render a detailed account on request, they are unduly harsh where there is no request. *Prima facie* it would appear that the patient should really be the person to decide whether he wants a detailed statement or not, and the practitioner's obligation to render one should only arise when the patient demands it.

(c) If the above view is accepted, the words in Section 80 (3) which were deleted should be restored.

#### 7. PUBLICITY OF DISCIPLINARY INQUIRIES

At present the practice appears to be to hold disciplinary inquiries in public. The Committee considers that this is undesirable as even if the practitioner is acquitted, the publicity the hearing receives often does him great harm. In consequence it is suggested that disciplinary inquiries should not be held in public but if a practitioner is found guilty, the charge, the finding by the Council and the penalty imposed should be published in the Press. If the practitioner is found not guilty, no publication of the charge and finding should be made unless he requests it.

The Committee could not find any provision in the Act or Regulations which require that such inquiries must be held in public. Presumably the Council or Committee decides the matter of its own accord in regard to each inquiry.

To introduce the above suggestions, therefore, no amendment of the Act would be required, but the Regulations under the Act should make provision accordingly.

#### 8. APPEAL TO THE SUPREME COURT

At present no appeal lies to the Supreme Court from a decision of the Council in disciplinary matters. The only relief an aggrieved practitioner has is the limited one of bringing his case into review by the Supreme Court. This means that the Supreme Court will not interfere, on the merits, with the decision of the Council if there is some evidence on which the latter could reasonably have made that decision, even though on the facts the Supreme Court thinks the decision was wrong. For example, in *McLoughlin's* case, the Appellate Division itself did not think that the charges were so grossly excessive as to justify a finding that the practitioner was guilty of disgraceful conduct, but as it could not say that there was no evidence on which the Council could have so found, it refused to disturb the Council's

finding. If there had been a full right of appeal the Appellate Division would have reversed the finding.

It is submitted that in regard to matters relating to overcharging, at any rate, a full appeal should be allowed to the Supreme Court, because:—

(a) Whatever the position may be in regard to other ethical matters, the Court would be in just as good a position to determine the matter as the Council. It would have before it all the evidence led at the inquiry, and in regard to any personal knowledge used by members of the Council, that could be put before the Court by affidavit. The Courts are often called upon to decide matters of fees and charges in all occupations and professions.

(b) As the practitioner's professional status and reputation are involved, the matter is important enough to warrant an appeal in the full sense.

It is relevant to observe here that in Section 18 of the English Medical Bill, which has recently been before the House of Lords, a right of appeal to the Privy Council is given to the practitioner where the Disciplinary Committee decides that his name should be erased from the register. The appeal here appears to be an appeal in the full sense and is indicative of the modern trend of thought that where a person's professional status, reputation or means of livelihood is involved, he should be given the full right of an appeal to the Courts for a final decision.

(Signed) M. Shapiro (Convenor).

L. I. Braun.

E. Meltzer.

R. Geerling (Co-opted).

Assisted by Adv. W. G. Trollip.

20 June 1950.

## ABSTRACTS

Kaae, S. (1949): *Endocrine Therapy of Cancer of the Breast, with Special Regard to Treatment with Androgenic Substances*. Ugeskrift for Laeger. Copenhagen, 111, 417.

Kaae says that in addition to palliative radiotherapy in inoperable cases of cancer of the breast and in recurrence and metastases after operative intervention roentgenologic castration, massive doses of androgens and more limited doses of estrogens can be advantageously applied. The effect in all cases is temporary. Treatment with massive doses of estrogens is indicated only in cancer localized in the soft parts in women aged over 60 or over and should not be applied in premenopausal women. Roentgen castration often gives excellent results before, and in the first years following the menopause. Treatment with androgens may be given at all ages, in younger women after the effect of roentgen castration has ceased. The best effect occurs in osseous metastases.

Since marked aggravation may occur during the treatment, especially when the serum calcium level is high or rising, regular control of the serum calcium during treatment is necessary. The androgenic substance used has been testosterone propionate, which in oil emulsion should be given in doses of at least 60 mg. two or three times weekly, in somewhat larger doses at the start, the first series of treatments to be continued for at least three months. With probably equally good effect testosterone propionate in crystalline suspension may be given with less frequent injections of correspondingly larger doses: for example, 100 mg. once a week. Testosterone propionate tablets may be implanted subcutaneously, but the treatment should probably be repeated at intervals of a few months at the utmost, and with implantation of massive doses, 10,000 mg. or more.

Circinate Telangiectatic Purpura (*Le Purpura Telangiectasique Arciforme*). Touraine, A. (1950): *Annales de Dermatologie et de Syphiligraphie*, 10, 5.

Dr. Touraine uses this name, which incorporates the three main characteristics, for a condition, hitherto undescribed, analogous to Majocchi's purpura annularis telangiectodes.

In 20 cases on which sufficient data were available there were 11 men and 9 women, and young adults were most commonly affected. The lesions are few in number, unlike Majocchi's disease, usually one or two; and the site of election is on the lower limbs. Lesions have occurred on forearm, flanks and cheeks. Multiple lesions are always bilateral.

The disease begins without symptoms and is noticed by chance so that very early lesions are seldom presented. The early lesion is oval or circular and 3 to 10 cm. in diameter. The narrow border consists of fine telangiectases, disappearing on vitro-pressure, and small brick-red points like those seen in Schamberg's disease. Some of these points disappear on pressure but some are purpuric. The central zone is yellowish-brown and shows few or no telangiectases and points; the hair has usually disappeared and the follicular ostia are difficult to see.

As the lesion enlarges the two zones become more distinct and the outline becomes petaloid and finally circinate as new arcs extend out from the original border. Old lesions may reach 20 cm. in diameter with active edges and centres which may be entirely quiescent, retain the yellowish colour, or sometimes become active again and brownish-red and show telangiectases. The epithelium usually remains normal but parakeratosis and scaling can occur. The evolution of the disease is measured in years and only one case of complete disappearance is known. Biopsy findings are similar to those in Majocchi's and Schamberg's diseases. An infective agent of attenuated virulence is suggested as the possible cause.

Bizzarri, O. (1947): *Quinine-Calcium Therapy of Pleurisy*. Giornale di Clinica Medica, 28, 214.

The pharmacological properties of calcium and quinine are well known:

*Calcium*: neuro-vegetative regulator; antitoxic; cytomoderator; haemostatic; furthering capillary resistance; stimulating phagocytosis; diuretic through mobilisation of sodium ions; experimentally proven antiphlogistic and anti-allergic in pleurisy (Gold and Rothlin, Liebermann and Cooperman); anti-anaphylactic by its special protective action (Kallas).

*Quinine*: antithermic moderator of oxydation; antineuritic; when taken in small doses, leukocytogenetic (according to Clerici); stimulating renal secretion, etc.

These different properties led to a combined quinine-calcium therapy. First came the publications of Barthel, who used quinine urethane and calcium gluconate separately; then came Blackert, Schoendube, Clerici, Rau, Scherf, who combined quinine gluconate with calcium gluconate; lastly Nissen and Ballmann, who used the combination quinine-aminophenazon-calcium glutamate. All these publications proved the therapeutic value of quinine-calcium against infections and toxicoses, as well as against alveolar exudation.

On the strength of these data, and encouraged by personal results, the author systematically applied this medication in all forms of pleurisy: massive or limited effusion; dry, with or without pulmonary tuberculosis localisation; with or without adenomesenteritis; recent or old.

Bizzarri's clinical observations, during a year of experience, numbered 27, and he concludes in favour of the quinine-calcium therapy, thoracentesis having been avoided in all cases.

He used Quinine-Calcium Sandoz, a combination of quinine gluconate and glucono-galacto-gluconate of calcium at 10%, in ampullae of 2 cm.<sup>3</sup> or of 5 cm.<sup>3</sup>, containing 120 and 300 mgm. of quinine gluconate, respectively. Dosage was as follows: for adults, 1 ampulla of 5 cm.<sup>3</sup> in the morning and at night; for children and some hypersensitive adults, one ampulla of 2 cm.<sup>3</sup>, morning and night.

The author is of opinion that it is always advisable to try quinine-calcium, especially in serofibrinous pleurisy, before having recurrence to thoracentesis.

(From the *South African Medical Journal*, May 1894, page 27.)

### A TARIFF OF FEES (1894)

#### NEWS OF THE MONTH

'Bloemfontein: A Meeting of medical practitioners was held on 10 April, to consider the Draft Medical Bill to be brought before the Volksraad next session, and it was resolved to ask members of the medical profession to sign the following:—

The members of the medical profession residing in the Orange Free State recognize the desirability of a just Medical Act, but they protest against the Draft Bill to be presented before the Volksraad as being against the interests both of the general public and the medical profession.

In a circular subsequently issued by the Secretary of the meeting (Dr. E. Wilson) a history is given of the drafting of the obnoxious Bill. It seems that Messrs. Swart and Heyns, of the Ficksburg district, presented a memorial to the Volksraad, praying for a revision of medical fees, as present charges were so high that medical attendance was out of the reach of many. The Volksraad thereon instructed the State Attorney to draft a Bill embodying a scale of fees. The State Attorney drafted the proposal for a Board of Medical Supervision, and no scale of fees was introduced, it being thought that as the members of the Board were to be appointed by the Government this matter could safely be left to them. A clause was inserted in this draft for the suppression of quackery. But when this Bill was drafted it was urged that the insertion of the quackery clause and the omission of the tariff would reduce the chance of its passing to a minimum. The present Bill was the result.

The circular also suggests the formation of a Medical Association for the Free State, which might meet in a yearly congress, and issue a quarterly journal.'

#### REPRESENTATION ON THE ORANGE FREE STATE BOARD OF MEDICAL SUPERVISION

(From the *South African Medical Journal*, April 1894, p. 236.)

Dr. Lawrence Herman, of Cape Town, criticizing the new Medical Bill for the Orange Free State as published in the *Orange Free State Government Gazette* of 9 February in connection with the setting up of a 'Board of Medical Supervision' (i.e. a Medical Council) wrote:—

i. (*On the question of the representation of dentists and apothecaries*): 'So few dentists and apothecaries exist in the Free State that it seems hardly necessary at present to add a dentist and an apothecary to the Board, while these gentlemen would not be in a position to assist the Government with advice upon public health or quarantine.'

Moreover, no clause in the Bill states that these members should only adjudicate on matters affecting their own calling. It cannot but be viewed with very great dissatisfaction, therefore, that it is apparently intended that they should have an equal vote upon matters affecting medical practitioners of which they as dentists or chemists are profoundly ignorant.

It would be of very great advantage if the members of the medical profession who are registered could be allowed to return one or two members to the Board. This would tend to strengthen the Board, for not only would the selection be likely to be a good one—for no one is so well able to judge of the fitness to sit on the Board as the members of the profession itself—but it would give the profession a direct voice in the government and management of the Board. This direct representation has been a very great success in England and here in the Cape Colony, and it would be a wise provision in a republic where direct representation is the cornerstone of a good and popular Government.'

#### A TARIFF OF FEES

ii. 'The price charged by any one for any commodity depends upon the value of that commodity, which is regulated by supply and demand. To say, therefore, to a medical man you shall only charge so much for advice or so much for medicine is to attempt to fix what is impossible.'

If an individual practitioner has attained to such eminence in his profession or has so much repute as to render his services to be in demand, it cannot be attempted to rate his services by a scale which would be no inducement to him to place his skill at the disposal of the community. . .

The Africander has a reputation for hard-headness, and is certainly not deficient in appreciating a fact. How is it then, that when it is impossible to fix by tariff the price of . . . horses or pigs, it is attempted to price the brain-power and skill of men who are absolutely necessary to the comfort and well-being of the community? In a Free State governed upon republican principles this is a barbarous anomaly which should be left to Kafir potentates.

Such a regulation takes us back to the very early days of this country, when our forefathers submitted to regulations drawn up by the Dutch East India Company fixing the price of wheat and wine, the dress of ladies, etc.; but nowadays in South Africa, when freedom has found a home and progress has sounded a new advance, such enactments are dangerous to liberty and freedom and are madly erroneous economical fallacies. . .

How it has come to be possible for any community to fancy it can increase the efficiency and character of a highly honourable and deserving profession by a repressive legislation is difficult to understand. In older countries for ages and ages the profession of medicine has been regarded as of the highest honour, and every effort has been made to stimulate the development of that profession, honours have been showered on its professors, rich emoluments have been placed at their disposal, wise laws have been enacted for its guidance, but nowhere in the wide world,

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except in South Africa, has any attempt ever been made to fix by law the price of medical advice and medicines. Again something new from Africa!

## THE RIGHT OF APPEAL

iii. 'In one respect, too, an additional safeguard might be introduced into the Act, that is to allow an appeal to the Supreme Court from all decisions affecting individuals. An individual may consider he has a grievance in the finding of the Board, and it would be well to allow an appeal to the Highest Court of Justiciary.'

(From the *South African Medical Record*, published 25 December 1909.)

## THE HONORARY STAFF AND THE JOHANNESBURG HOSPITAL

A new situation has arisen in connection with the Johannesburg Hospital. Mr. Smuts, the Colonial Secretary, has decreed that patients paying ten shillings *per diem*, who have hitherto paid their own medical attendant, shall in future be entitled to the free services of the Honorary Staff, who, as a matter of charity, willingly give their services to the poor, but will, *ergo*, be called upon to do the same for people fully able to pay. The Staff, of course, resents this, and the effect would be very serious upon the outside medical profession, if carried out. Anything more monstrous it is difficult to imagine, and if the local profession submits to it, then we can only say that Mr. Smuts' contemptuous opinion of the faculty will be fully justified. We are inclined to think that there is something at the back of the astute head of Mr. Smuts, which does not appear, very probably an idea of bringing about by a flanking movement, the abolition of the Honorary Staff altogether, and the substitution of paid whole-time men. We understand that a meeting of the Staff is to be held, and that it will be followed by one of the local practitioners, and it is to be hoped that the whole profession will stand shoulder to shoulder.

## PASSING EVENTS

Prof. J. Gillman of the Department of Physiology, University of the Witwatersrand, is one of 15 scientists invited from different parts of the world by the Council for the Co-ordination of International Congress of Medical Sciences to discuss ways and means of co-ordinating cancer research.

\* \* \* \*

Dr. R. Campbell Begg of Johannesburg has received the Havenga Prize of the Akademie vir Wetenskap en Kuns.

\* \* \* \*

Dr. Norman Klass, B.A., M.B., B.Ch., D.Phys. Med., has commenced practice as a specialist in physical medicine at 9 Heath's Buildings, 78 Pritchard Street, Johannesburg. Telephone: 22-8650.

\* \* \* \*

Dr. Mark Horwitz has been appointed a Clinical and Research Fellow in Medicine at Harvard Medical School and the Massachusetts General Hospital, Boston, U.S.A. for 1950.

\* \* \* \*

Dr. J. L. Treneman of Durban was married on 24 June 1950 to Miss A. P. Marks at St. Matthew's, C.P.

## EMPIRE MEDICAL ADVISORY BUREAU

South African medical practitioners who are thinking of visiting the United Kingdom should get into touch with Dr. H. A. Sandiford, Medical Director of the Bureau, at B.M.A. House, Tavistock Square, London, W.C.1, so that all the facilities of the Bureau will be placed at their disposal.

Medical practitioners will find the Bureau helpful in arranging accommodation as well as post-graduate courses of study.

## AMENDMENT OF THE REGULATIONS REGARDING THE DEGREES, DIPLOMAS OR CERTIFICATES ENTITLING MEDICAL PRACTITIONERS AND DENTISTS TO REGISTRATION

(Government Notice No. 1108 dated 19 May 1950)

His Excellency the Governor-General has been pleased, under the powers vested in him by sections twenty-two and twenty-three of the Medical, Dental and Pharmacy Act, 1928 (Act No. 13 of 1928), as amended, and after considering a recommendation of the South African Medical and Dental Council to amend further the regulations regarding the degrees, diplomas or certificates entitling medical practitioners and dentists to registration under the Act, published under Government Notice No. 398 of 19th March, 1937, as amended, as follows:—

(1) By the deletion in proviso (b) of regulation (1) of the words "but this proviso shall not apply to degrees, diplomas or certificates held by a British subject born in the Union or domiciled in the Union when he commenced his professional studies, who proceeded therefrom prior to the 17th April, 1936, for the prosecution of his studies"; and the substitution therefor of the words—

"i.e. this proviso shall not apply to degrees, diplomas or certificates held by a British subject born in the Union or domiciled in the Union when he commenced his professional studies, who proceeded therefrom prior to the 17th April, 1936, for the prosecution of his studies; and

(ii) the requirement relating to the last three years of professional study shall not apply to degrees, diplomas or certificates recognised by the Council as at the 1st January, 1950, and granted to any person prior to the 17th April, 1936." (2) By the addition to regulation (3) of the following:—

University or Examining Authority and Qualification	Abbreviation for Registration
Univ. of New Zealand— Bachelor of Dental Surgery	B.D.S., Univ. New Zealand.

(3) By the deletion from regulation (4) of the following:—

University or Examining Authority and Qualification	Abbreviation for Registration
Univ. of New Zealand— Bachelor of Dental Surgery.	B.D.S., Univ. New Zealand.

## BOOK REVIEW

## OSCAR SLATER

*The Trial of Oscar Slater*. Edited by W. Roughead. Notable British Trials Series. (Pp. 338. 15s. 4th ed.) Edinburgh and London: William Hodge & Company, Limited. 1950.

**Content:** 1. The Trial: First day: Monday 3 May 1909. Evidence for Prosecution. 2. Second day: Tuesday 4 May 1909. Evidence for Prosecution (cont'd.). 3. Third day: Wednesday 5 May 1909. Evidence for Prosecution (concluded). 4. Evidence for Defence. 5. Fourth day: Thursday 6 May 1909. Evidence for Defence (concluded). Addresses to the Jury. Appendices, including Evidence at the Hearing in Appeal on 9 July 1928 and the Judgment in the Appeal Case.

The reader will remember that Oscar Slater was actually sentenced to death in 1909 for a murder of which he was found not guilty 19 years later. He was awarded by Parliament an *ex gratia* payment of £6,000 in 1928, after his release.

Slater's trial holds a double interest for the medical reader.

He will share with his fellow citizens an unrestrained admiration for the judicial courage required to quash a conviction for murder, after the accused had spent the best part of his life in gaol. He will also find of utmost interest the medical evidence given by practitioners who included such a forensic colossus as Prof. John Glaister.

It is interesting to what extent the medico-legal pathologist, at the turn of the century, was prepared to play the part of the detective. To-day this would (and rightly so) be most actively discouraged. It is no part of the pathologist to usurp the functions of the police investigator.

One crucial aspect of the case hinged upon the demonstration of human blood on the alleged lethal weapon. Professor Glaister was prepared to go to extraordinary lengths in asserting that the corpuscular bodies, which he found on a weapon, were mammalian red blood cells. He was not prepared to swear on oath that they were blood cells, because of the absence of confirmatory tests, although he was morally and intellectually convinced that he had seen mammalian red cells.

This kind of evidence is a particularly good example of academic futility. The Court, after all, had scant interest, in this case, in any evidence other than that relating to human blood, and this kind of fact cannot be substantiated by morphological enquiries. Professor Glaister, indeed, may well have been looking at yeast cells. The case is worth studying from this point of view alone, because of the great help it affords in guiding the modern medical witness.

Another interesting medico-legal point was concerned with the attempt to infer the nature of the weapon with which the skull of the deceased had been shattered. Professor Glaister held that it could have been produced by a very small, light hammer. Prof. Harvey Littlejohn did not share this view, but his evidence on this point was not led by the Crown. This became the basis of a considerable attack upon the medical evidence and upon the Crown in the subsequent appeals.

One extraordinary feature of the case was that a Dr. Adams, who was first upon the scene of the crime (when the deceased had just died) and who formed a very valuable hypothesis about the use of a heavy chair as the lethal weapon, had no opportunity to give the Court the benefit of his opinion. It seems likely that Dr. Adams may well have been more accurate in his analysis of the situation than Professor Glaister had been. This aspect of the case illustrates very forcibly the difficulty, as well as the danger, of attempting to infer the exact size and the nature of a weapon used by an assailant to inflict wounds, especially in the region of the head, when these wounds are without any specific characteristic. Medical evidence should never go further than a statement that (non-specific) wounds are consistent with production by a weapon of a general type.

The medical witnesses also misled themselves in attempting to describe the number of blows struck by the murderer. This is a completely inverted approach to the problem. The careful pathologist is much better advised to try to deduce the least number of blows likely to have been struck, in order to produce the wounds that were found on the deceased. The maximum number of blows struck must always be conjectural to a much greater extent than the estimation of the minimum number of blows.

This interesting volume can be commended to the attention of all medical practitioners as they are almost certain, at one time or another, to find themselves in the position of having to give evidence in a matter of this kind.

*The Trial of Oscar Slater* incidentally also illustrates the difficulty of personal identification and in this respect it has many points in common with the *Trial of Adolf Beck* (1904), also reported in *The Notable British Trial Series*. The book is a valuable illustration of the limitations which must always be placed on circumstantial evidence.

## CORRESPONDENCE

### SOME ASPECTS OF THE TREATMENT OF ARTHRITIC JOINTS

*To the Editor:* The part played by injections in the treatment of arthritis is a very important one, yet it forms only a minor part of the treatment. The relief from pain and the

restoration of function after an effective analgesic injection has a tremendous psychological effect on the patient, and reinforces his faith and confidence in his doctor, and establishes that *en rapport* feeling which is such a powerful ally in the armamentarium of the doctor-patient relationship. The doctor who approaches the treatment of arthritis as merely a 'local affair' will find that the 'injection cure' is of a very transient nature, that the symptoms will keep on recurring and that no permanent relief will be obtained.

It is important that we clarify our conception of the mechanism which brings about a painful joint, and only then embark on a treatment.

The experience gained after many years of treating a very considerable number of articular and non-articular rheumatism, has led me to the following conclusions:

1. Generally speaking, arthritis is merely a local manifestation of a systemic disorder (apart from trauma, infection and neoplasm, which may begin locally).

2. Arthritis first commences in the soft periarticular tissues, viz. muscles, ligaments, synovial membranes, cartilage and finally the bones of the joints, in that order, and that the pathological processes have been going on for a considerable time before finally settling in the joints.

3. The treatment, to be effective and permanent, must begin before the disease settles in the joints.

### LACTIC ACID AND SODIUM ACID PHOSPHATE INJECTIONS

Crowe<sup>1</sup> obtained favourable results in a large proportion of his cases. I tried out his method but could not reproduce results. Then Waugh<sup>2</sup> published his results with the lactic acid injections which received such wide publicity in the lay press, and we were inundated with requests for this new 'wonder drug' for arthritis. For self protection I had to publish in our *Journal* an article<sup>3</sup> explaining the true position, that it was not a 'cure all'. My reasons for abandoning the intra-articular lactic acid injections were:—

- i. Because of the very serious reactions and complications which followed an injection of what one hoped was a sterile solution with a probably almost sterile needle into an aseptic joint. When it is remembered that the first sign of osteoarthritis in the hip joint is the destruction of the cartilage, formation of osteophytes and neophytes, narrowing and eventually obliteration of the joint, then it becomes clear that the great majority of mono-articular osteo-arthritis joints presenting themselves for treatment are in a fairly advanced state of the disease, and not very suitable for treatment or, as Dr. Waugh aptly puts it, 'The mechanical difficulty of reaching the space of the joint with the needle is insuperable'.

2. A very prolonged course of treatment is required, lasting for months. It is not ambulatory, and is not free from serious complications.

3. The cases that were suitable, could be treated more expeditiously and less painfully by other methods.

It is largely due to the inspiration which I received from the work done by Crowe, Waugh and Coke, that I embarked on a search for an injection which in order to be acceptable must fulfil the following four criteria:—

- i. It must be painless and have a rapid analgesic effect.
- ii. It must be free from reactions.
- iii. It must have a prolonged healing effect.
- iv. It must be easy to administer.

The obvious objections to aqueous solutions were that their action was of far too short a duration, a matter of hours, and in large quantities were apt to act as irritants to the tissues. An oily vehicle with the addition of some analgesic would have a pain-relieving effect, as well as give a prolonged healing result. I tried some well known preparations containing Procain and Novocain derivatives plus benzyl alcohol, but had to discard them because of the severe local reactions and the increase in pain.

After experimenting for three years with various combinations, I now use an injection which answers almost completely the four criteria I laid down. This is a 2% or 4% solution of Procaine in olive oil, or almond oil, with occasionally the addition of 3-5 minims of Adrenaline hydrochloride 1 : 1,000. This latter, by producing a vasoconstriction, enhances and helps to prolong the action to 4-6 weeks. I agree with Levey<sup>4</sup> that intracaine is also a very useful solution of Procain in oil, though I prefer my own

because it is much more economical and more effective with the addition of adrenaline.

**Technique.** The choice of the site for the injection is of great importance, and the further away from the joint the better. In arthritis, e.g. of the knee joint, the sites I choose are the 'prominences' on the sides of the quadriceps tendon, over and near the condyles of the femur, and the supra- and infra-patellar bursae. Any tender, elevated or 'boggy' areas must be injected as these represent oedematous, congested and inflamed tissue, especially at the ligamentous attachments.

The amount injected depends on the area involved, the chronicity of the case, and the amount of activity present, but generally I rarely exceed 2-5 c.c. per site, because large quantities of solutions, 30-50 c.c., as advocated by some authorities, frequently have an adverse effect on a devitalized tissue, and a severe reaction may occur at the site of the injection. A small amount of the oily Procaine solution is non-irritating, and has a prolonged healing effect, 14-28 days.

The injections are repeated at weekly intervals, and at each session 2-3 areas are injected. Sometimes one has to reinject an area which has been treated because of some residual pain and tenderness which has not been adequately dealt with on the first occasion.

A very useful guide is to palpate with the index finger of the left hand while injecting, as thus one can gauge whether the area has been fully infiltrated. It is a mistake to keep on injecting until a stony hardness and ballooning occurs. Merely a sense of gentle fullness as felt by the palpating finger is a sign to stop.

The synovial membranes covering the ligaments are extremely sensitive, and are apt to react violently, especially in the regions of the elbows and wrists. Here a very thin needle (No. 16-17 inch gauge 1 inch) and about 0.5 c.c. to 1 c.c. of a 5% procain in oil is adequate. The needle should be introduced from the periphery towards the centre of the painful area, as thus one avoids traumatizing an already devitalized tissue. Though I have never seen any reference to this method, experience has taught me that the strapping of the area with elastoplast after the injections of the solution, produces a more permanent and rapid result, and also adds to the patient's comfort. In the case of the knee joint, I apply the strapping in the shape of a 'St Andrew's' cross and leave the popliteal space completely free and unstrapped. The same applies to the shoulder, elbow and wrist joints, where the strips of elastoplast are applied only to the outside or extensor aspects of the joint. I often massage the injected spot to spread the solution over as wide an area as possible and then do some gentle manipulation after the procaine has begun to take effect. Generally, 3-4 injections are quite sufficient to produce a satisfactory functional result, though of course the damage which already exists is of a permanent nature, and the best one can hope for is the arrest of the pathological process.

The stiffness and pain of the hip joint in women at the menopause<sup>5</sup> are favourably influenced by injecting the Procaine in oil into the sacro-iliac joints. The explanation given by Scott<sup>6</sup> is that in, e.g. ankylosing spondylitis, the primary changes occur in the sacro-iliac joints, and then spread to the hip joints, and finally settle down in the spine. The same phenomena were observed at the Charterhouse Rheumatism Clinic, by Smith<sup>7</sup> during the treatment of endocrine backs with wide field X-ray therapy. A possible explanation why sacro-iliac joints respond more readily to the treatment than other joints, is because anatomically this joint consists, from above downwards, of three parts: fibrous, cartilaginous and osseous. The fibrous portion chiefly is the seat of the pain at its articulation with the upper part of the sacrum, and the analgesic effect produced by a local infiltration of an anaesthetic relieves:—

1. The spasm of the muscular and ligamentous attachments to the joints.
2. Diminution of oedema and congestion and the restoration of free and painless movements at the joint.

The sacro-iliac joint should be infiltrated along the entire extent of the tenderness elicited by deep palpation, and the needle should not be inserted for more than half an inch, as too deep an injection may produce an unnecessary reaction, probably because too much of the solution is introduced into instead of around the joint.

'Myalgic spots' and 'trigger points' anywhere in relation

to a muscular structure, and away from the joint should be injected as deep as the 1 inch needle will allow. This is a safe and a rapidly pain-relieving procedure. In the wrist joints I use equal parts of a 2% solution of 'metycaine' (Lilly) with equal parts of the Procaine-in-oil (The 'fifty-fifty') solution. This makes a much thinner solution which is easier to inject in small quantities, e.g. 1-2 c.c., as the synovial membrane reacts very sharply to thicker solutions which are also absorbed much more slowly. In treating a 'tennis elbow' the 'fifty fifty' solution is far more effective when injected over the external epicondyle of the humerus and into the painful area. The induced anaesthesia allows gentle manipulation of the elbow, when all the movements, especially those of extension and supination, are free, strapping the joints, which is left on for 3-4 days.

The treatment with Procaine and oil is ambulatory, rapidly effective, and in about 90% produces permanent relief.

The injections of the painful areas for arthritis is only part of the treatment, and I should like to discuss the other methods used by me in the treatment of various arthropathies.

**Treatment.** One must have a definite plan of action when dealing with the various manifestations of the arthropathies, and the programme which I have adopted and carried out during the last ten years is as follows:—

1. Sedation to the psychological and emotional disturbances combined with physical and mental rest.
2. The Correction of Deficiencies, e.g. glandular, calcium iron, vitamins, etc.
3. Local Injections of analgesic solutions into the painful areas and 'myalgic spots'.
4. Wide-Field and Local X-ray Therapy.
5. Miscellaneous. Diet, physiotherapy, remedial exercises, manipulation and last but not least reassurance and constant emphasis on the positive aspects of the progress.

The administration of sedatives is the first step in the treatment, and by sedation I mean the administration of sedatives such as, e.g. Phenobarbitone ½-1 gr., valerian-bromide, etc., best given in the form of a mixture. The mixture is to be taken immediately after lunch and at bed-time. The patient is to go to bed and rest for at least 1-2 hours.

The reason why the sedatives are to be taken after lunch and at bed time is because after a meal the digestive processes take over from the central nervous system, which is then more readily influenced by a sedative, and the same applies to a certain extent to taking the mixture at bed time, when the system is in a state of fatigue and has lessened resistance. No sedative should be taken after breakfast or between meals, otherwise there is a tendency for the cumulative action of the sedatives, with a prolonged depressing 'hang-over' effect on the body as a whole. Many years of experience have taught me that small, almost homeopathic doses of a sedative given after lunch and at bed time bring about the best results. The patient who is in a state of high nervous tension has a very acute sense of the appreciation of pain, no matter whether it is articular, muscular or neurological. It is now fairly conclusively established, especially after the vast experience gained in the Second World War, that pain is greatly intensified by various emotional disturbances, and there is assumed to be a close relationship between the thalamo-cortical centres and the peripheral centres in the formation of these pains.<sup>8</sup>

**Wide-Field and Local X-ray Therapy.** It is impossible to go into full detail about the various aspects of the treatment as enumerated above, but wide-field and local X-ray therapy looms so large in the treatment of articular arthritis, that it is essential that I should make some observations as these apply to my practice. During 1939-1940 I had the privilege of studying at the Charterhouse Rheumatism Clinic, the effects of wide-field and local X-ray therapy under the late Dr. Gilbert Scott, whose keenness and enthusiasm was always a source of inspiration and encouragement. After experimenting with various voltages, milli-amperages, filters and dosages, I now confine the wide-field treatment mainly to menopausal arthritis cases, with 'endocrine backs' and Spondylitis<sup>9</sup> and here the dosage is on the small side, 50-100 r, at weekly intervals for six treatments only, as higher dosages, owing to the debilitated state of the patient's health, are apt to have an adverse effect. This to a certain extent also applies to the local application of X-rays to the painful joints. Small doses of e.g. (60-100 r with 2-3 mm. Al. at 80-100 K.V.) repeated every five to seven days for a total of 400 r—500 r

are quite adequate. Frequently menopausal patients come up after a lapse of several months, for treatment of swollen and painful phalangeal or wrist joints, and one or two local X-ray treatments are at times quite sufficient to reduce the swelling and give relief from pain.

Of course, at the same time I give the patients a few glandular injections, e.g. oestrogen 10-20,000 units, progesterone 3-5 mg. plus a sedative. Theoretically the X-ray dosages are too small, and the sedative and endocrine therapy may be criticised on the same basis, but I do know that the patient gets a definite subjective relief, which, after all, is what the patient expects from a treatment. I confess that at times I am not too certain to which therapeutic agent I should or could honestly attribute the successful termination of a case, but one thing I am absolutely certain about, and that is that a doctor must not limit his treatment to a one and only method, because a patient is not merely a pain attached to a joint, but a very complex individual who could be influenced for good or evil by so many physical, mental and psychological factors.

I very rarely employ physiotherapy as the effect of, e.g. diathermy, infra-red and ultra-violet rays, etc., is very transient and of no curative value. In some cases of fibrosis, infra-red rays followed by massage is helpful.

Manipulation and massage to an acutely inflamed joint is merely doing violence to the part and is an unwarranted interference with the laws governing the physiology of healing.

*Comment.* I have given a brief outline of the methods I employ with a fair amount of success. This is essentially a practical paper based on 10 years of experience dealing with literally thousands of arthritic joints.

I have intentionally abstained from quoting numerous cases or giving impressive numbers of statistically tabulated cases. Statistics can be quoted to prove almost anything to one's own satisfaction, and it would be contrary to human nature to cite facts and cases unfavourable to one's theories.

Every worker who is interested in this subject will claim a marked superiority for his particular method, but I can say in all sincerity that the *modus operandi* outlined above produces a very large measure of relief from pain and the restoration of function in what constitutes the most painful and crippling disability of our time.

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Arnold Raff, L.R.C.P., Ed.

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Cape Town.  
4 May 1950.

#### NOT SO FUTILE RADILOGICAL PROCEDURES

*To the Editor:* In your issue of 17 June 1950, under the heading *Futile Radiological Procedures* (strong words!), Dr. Victor Berman levels the criticism: 'There appears to be in Cape Town a demand for the unusual radiological procedure of routinely screening the accessory nasal sinuses when a patient is referred for a radiograph of the chest'; criticism against whom, the clinician who appears to 'demand' this 'unusual procedure' (*sic*) or the Cape Town radiologists who appear 'to lull them (the clinicians) into a false sense of security by a report that the sinuses are clear on screen examination'?

Cape Town clinicians can assure Dr. Berman that they are aware of the limitations of this procedure and even of 'excellent radiographic studies in several views' with which their radiologists have long supplied them on 'demand'; yet these limitations have never been considered symptomatic of

the futility of either of the above procedures nor indicative of a lack of judgment and skill on the part of Cape Town radiologists, and in any case, as Dr. Berman admits, it is the clinician who has the last word.

It is true 'There are no short cuts', but then Cape Town clinicians were aware of these self-evident facts long before '19 May 1950'.

'Clinician.'

Cape Town.  
20 June 1950.

*To the Editor:* In defence of the criticism levelled against Cape Town practitioners and radiologists in Dr. Berman's letter appearing in the *Journal* of 17 June 1950, and without resorting to the necessity of referring to any current literature, I would like to draw his attention to page 100, Vol. I, in *A Text Book of X-ray Diagnosis* by British Authors, which is recognized throughout the English-speaking world as a standard work. The particular section on the respiratory system was written by Peter Kerley, whose name needs no further elaboration: 'A preliminary screening of the nasal sinuses is a useful procedure. Opacity of the maxillary antra may be thus detected and throw light upon an obscure respiratory infection.'

No attempt is made to give a definite or accurate diagnosis on fluoroscopic examination of the antra, and definitely none at all with respect to the other para-nasal sinuses. Confirmation by adequate radiographs, after detection of gross pathology in the antra by this procedure, will save the patient the possibility of chronic respiratory disease, considerable ill-health, pain and discomfort, and will obviate the necessity for a possible second visit to the radiologist and the extra expense incurred.

Does Dr. Berman also consider routine fluoroscopic examination of the chest preliminary to a barium meal, to be a 'futile procedure'?

H. Hirschson.

Union House,  
Queen Victoria Street,  
Cape Town.  
21 June 1950.

*To the Editor:* It is regrettable that Dr. Victor Berman, in his letter labelled *Futile Radiological Procedures*, published in the issue of the *Journal* on 17 June 1950, so severely criticizes the clinicians and the radiologists of Cape Town.

Particularly is this so when he must be judged on his own evidence. His claim that he knows no reference in the literature advocating fluoroscopic survey of the sinuses during the examination of the chest, nor any X-ray Department overseas in which it is done, appears to be based upon a most cursory and superficial investigation. It is more than surprising that he did not refer to the standard textbook for the examination for the Diploma of Radiology. On pages 100 and 101, Volume I, of *A Text Book of X-Ray Diagnosis*, by British Authors 1938, there is very clearly printed: 'A preliminary screening of the nasal sinuses is a useful procedure. Opacity of the maxillary antra may thus be detected and throw light upon an obscure respiratory infection. If any abnormality is noted, or suspected on clinical grounds, films should be taken of the sinuses.'

It seems hardly necessary to delve further into the reference library when this well-known and authoritative textbook should be readily available on every radiologist's shelf.

For Dr. Berman's benefit his attention must be drawn to the fact that it is only the frontal and the maxillary sinuses which are commented upon when a fluoroscopic survey is done. None but the veriest tyro could believe that an attempt is made to determine the exact nature of changes in the frontal or maxillary sinuses, or the condition of the ethmoidal and the sphenoidal cells, during the radiologist's worthwhile fluoroscopic survey.

One cannot but agree with Dr. Berman that there are no short cuts!

J. N. Jacobson.

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21 June 1950.